IBC - Egress

2024 GROUP A PROPOSED CHANGES TO THE I-CODES

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2024 GROUP A – PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE – MEANS OF EGRESS

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TENTATIVE ORDER OF DISCUSSION
2024 PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE – EGRESS

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation does not necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some E code change proposals may not be included on this list, as they are being heard by another committee.

G1-24 Part II
E1-24 Part 1
G2-24
G3-24
G8-24 Part 1
G9-24
G10-24 Part 1
G13-14
G14-24
G18-24
E2-24 Part I
E3-24
E4-24
E5-24
E6-24
E7-24
E8-24
E9-24
E10-24
P19-24 Part II
E11-24
E12-24
E13-24
E14-24
E15-24
E16-24
E17-24
E18-24
E19-24
E20-24
E21-24
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E68-24
E69-24
E70-24
E71-24
E72-24
E73-24
E74-24
E75-24
E76-24
E77-24 Part I
E78-24
E79-24
E80-24
E81-24
E82-24
E83-24
E84-24
E85-24
E86-24
E87-24
E88-24
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E115-24
E116-24
E117-24
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E119-24
E120-24
E121-24
E122-24
E123-24
E124-24
E125-24
E126-24 Part I
E127-24 Part I
F217-24 Part II

E1-24 Part I

IBC: SECTION 202 (New), 703.5, 1004.7, 1011.5.5.3, 1011.7.1, 1015.2, 1607.9.1.1, 1704.2.2, 1807.2.5, 2111.3.1, 2113.9.2, 2405.3.3, 2406.4.3, 3008.9, F101.5.1, H110.1; IFC: [BE] 1004.7, [BE] 1011.5.5.3, [BE] 1011.7.1, [BE] 1015.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org); Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

THIS IS A 5 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC EGRESS CODE COMMITTEE.

PART II AND III WILL BE HEARD BY THE FIRE/WILDLAND-URBAN INTERFACE CODE COMMITTEE.

PART IV WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE.

PART V WILL BE HEARD BY THE RESIDENTIAL CODE - PLUMBING & MECHANICAL CODE COMMITTEE.
SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Add new definition as follows:

ACCESS (TO). That which enables a device, an *appliance* or equipment to be reached by *ready access* or by a means that first requires the removal or movement of a panel or similar obstruction [see also “Ready access (to)”].

READY ACCESS (TO). That which enables a device, *appliance* or equipment to be directly reached, without requiring the removal or movement of any panel or similar obstruction [see also “Access (to)”].

Revise as follows:

703.5 Marking and identification.
Where ~~there is an accessible~~ access is provided to a concealed space that is located under a floor, within a floor-ceiling or an *attic* space, *fire walls*, *fire barriers*, *fire partitions*, *smoke barriers* and *smoke partitions* or any other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling in the concealed space. Such identification shall:

1. Be located within 15 feet (4572 mm) of the end of each wall and at intervals not exceeding 30 feet (9144 mm) measured horizontally along the wall or partition.
2. Include lettering not less than 3 inches (76 mm) in height with a minimum $^{3}/_{8}$-inch (9.5 mm) stroke in a contrasting color incorporating the suggested wording, “FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS,” or other wording.

1004.7 Outdoor areas.
Yards, patios, *occupiable roofs* , *courts* and similar outdoor areas ~~accessible to and usable~~ intended for use by the *building* occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by *persons* in addition to the occupants of the *building*, and the path of egress travel from the outdoor areas passes through the *building*, *means of egress* requirements for the *building* shall be based on the sum of the *occupant loads* of the *building* plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual *dwelling units* of Group R-2.

1011.5.5.3 Solid risers.
Risers shall be solid.

Exceptions:

1. Solid risers are not required for *stairways* that are not required to comply with Section 1009.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).

2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas ~~accessible~~ open to the public. The size of the opening in the riser is not restricted.
3. Solid risers are not required for *spiral stairways* constructed in accordance with Section 1011.10.

1011.7.1 Stairway walking surface.

The walking surface of treads and landings of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $^1/_2$-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking *structures* ~~accessible~~ open to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^1/_8$ inches (29 mm) cannot pass through the opening.

1015.2 Where required.

Guards shall be located along open-sided walking surfaces, such as *mezzanines*, *equipment platforms*, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side and at the perimeter of *occupiable roofs* . *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not ~~accessible~~ open to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where *approved guards* are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

1607.9.1.1 Uniform load.

Handrails and *guards* shall be designed to resist a linear *load* of 50 pounds per linear foot (plf) (0.73 kN/m) in accordance with Section 4.5.1.1 of ASCE 7. This load need not be assumed to act concurrently with the concentrated load specified in Section 1607.9.1.

Exceptions:

1. For one- and two-family *dwellings*, only the single concentrated *load* required by Section 1607.9.1 shall be applied.
2. In Group I-3, F, H and S occupancies, for areas that are not ~~accessible~~ open to the ~~general~~ public and that have an *occupant load* less than 50, the minimum *load* shall be 20 pounds per foot (0.29 kN/m).
3. For roofs not intended for occupancy, only the single concentrated load required by Section 1607.9.1 shall be applied.

1704.2.2 Access for special inspection.

The construction or work for which *special inspection* or testing is required shall remain ~~accessible and~~ exposed and with access for *special inspection* or testing purposes until completion of the required *special inspections* or tests.

1807.2.5 Guards.
Guards shall be provided at retaining walls in accordance with Sections 1807.2.5.1 through 1807.2.5.3.

Exception: *Guards* are not required at retaining walls in areas not ~~accessible~~ open to the public.

2111.3.1 Ash dump cleanout. Cleanout openings, located within foundation walls below fireboxes, where provided, shall be equipped with ferrous metal or *masonry* doors and frames constructed to remain tightly closed, except when in use. Cleanouts shall be ~~accessible~~ provided with access and located so that ash removal will not create a hazard to combustible materials.

2113.9.2 Spark arrestors. Where a spark arrestor is installed on a *masonry* chimney, the spark arrestor shall meet all of the following requirements:

1. The net free area of the arrestor shall be not less than four times the net free area of the outlet of the chimney flue it serves.
2. The arrestor screen shall have heat and *corrosion resistance* equivalent to 19-gage galvanized steel or 24-gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter greater than $^1/_2$ inch (12.7 mm) nor block the passage of spheres having a diameter less than $^3/_8$ inch (9.5 mm).
4. The spark arrestor shall be ~~accessible~~ provided with access for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

2405.3.3 Screening not required in monolithic and multiple-layer sloped glazing systems.
In monolithic and multiple-layer sloped glazing systems, retention screens are not required for any of the following:

1. Fully tempered glass where glazed between intervening floors at a slope of 30 degrees (0.52 rad) or less from the vertical plane, and the highest point of the glass is 10 feet (3048 mm) or less above the walking surface.
2. Any glazing material, including annealed glass, where the walking surface below the glazing material is permanently protected from the risk of falling glass or the area below the glazing material is not a walking surface.
3. Any glazing material, including annealed glass, in the sloped glazing systems of commercial or detached noncombustible *greenhouses* used exclusively for growing plants and not open to the public, provided that the height of the *greenhouse* at the ridge does not exceed 30 feet (9144 mm) above grade.
4. Individual *dwelling units* in Groups R-2, R-3 and R-4 where fully tempered glass is used as single glazing or as both panes in an insulating glass unit, and all of the following conditions are met:
   4.1. Each pane of the glass is 16 square feet (1.5 m^2) or less in area.
   4.2. The highest point of the glass is 12 feet (3658 mm) or less above any walking surface ~~or other accessible area~~.
   4.3. The glass thickness is $^3/_{16}$ inch (4.8 mm) or less.
5. Laminated glass with a 15-mil (0.38 mm) polyvinyl butyral or equivalent interlayer used in individual *dwelling units* in Groups R-2, R-3 and R-4 where both of the following conditions are met:
   5.1. Each pane of glass is 16 square feet (1.5 m^2) or less in area.
   5.2. The highest point of the glass is 12 feet (3658 mm) or less above a walking surface ~~or other accessible area~~.

2406.4.3 Glazing in windows. Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered to be a hazardous location:

1. The exposed area of an individual pane is greater than 9 square feet (0.84 m^2).
2. The bottom edge of the glazing is less than 18 inches (457 mm) above the floor or adjacent walking surface.
3. The top edge of the glazing is greater than 36 inches (914 mm) above the floor or adjacent walking surface.
4. One or more walking surface(s) are within 36 inches (914 mm), measured horizontally and in a straight line, of the plane of the glazing.

Exceptions:

1. *Decorative glazing*.
2. Where a horizontal rail is installed on the ~~accessible~~ walking surfaces side~~(s)~~ of the glazing at 34 to 38 inches (864 to 965 mm) above the walking surface, the~~. The~~ rail shall be capable of withstanding a horizontal *load* of 50 pounds per linear foot (730 N/m) without contacting the glass and be not less than $1\,^{1}/_{2}$ inches (38 mm) in cross-sectional height.
3. Outboard panes in insulating glass units or multiple glazing where the bottom exposed edge of the glass is 8 feet (2438 mm) or more above any grade or walking surface adjacent to the glass exterior.

3008.9 Emergency voice/alarm communication system.
The *building* shall be provided with an *emergency voice/alarm communication system*~~. The *emergency voice/alarm communication system* shall be accessible to the fire department. The system shall be provided~~ in accordance with Section 907.5.2.2.

F101.5.1 Rodent ~~accessible~~ access to openings. Windows and other openings for the purpose of light and ventilation in the *exterior walls* not covered in this chapter, ~~accessible to~~ that are susceptible to entry by rodents by way of exposed pipes, wires, conduits and other appurtenances, shall be covered with wire cloth of at least 0.035-inch (0.89 mm) wire. In lieu of wire cloth covering, said pipes, wires, conduits and other appurtenances shall be blocked from rodent usage by installing solid sheet metal guards 0.024 inch (0.61 mm) thick or heavier. Guards shall be fitted around pipes, wires, conduits or other appurtenances. In addition, they shall be fastened securely to and shall extend perpendicularly from the *exterior wall* for not less than 12 inches (305 mm) beyond and on either side of pipes, wires, conduits or appurtenances.

H110.1 General.
Roof signs shall be constructed entirely of metal or other *approved* noncombustible material except as provided for in Sections H106.1.1 and H107.1. Provisions shall be made for electric grounding of metallic parts. Where combustible materials are permitted in letters or other ornamental features, wiring and tubing shall be kept free and insulated therefrom. *Roof signs* shall be so constructed as to leave a clear space of not less than 6 feet (1829 mm) between the roof level and the lowest part of the *sign* and shall have not less than 5 feet (1524 mm) clearance between the vertical supports thereof. *Roof sign structures* shall not project beyond an *exterior wall*.

Exception: *Signs* on flat roofs ~~with every part of the roof accessible~~ where there is access to the signs.

2024 International Fire Code

Revise as follows:

[BE] 1004.7 Outdoor areas. *Yards*, patios, *occupiable roofs* , *courts* and similar outdoor areas ~~accessible to and usable~~ intended for use by the *building* occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by *persons* in addition to the occupants of the *building*, and the path of egress travel from the outdoor areas passes through the *building*, *means of egress* requirements for the *building* shall be based on the sum of the *occupant loads* of the *building* plus the outdoor areas.

Exceptions:
1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual *dwelling units* of Group R-2.

[BE] 1011.5.5.3 Solid risers.
Risers shall be solid.

Exceptions:
1. Solid risers are not required for *stairways* that are not required to comply with Section 1009.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas ~~accessible~~ open to the public. The size of the opening in the riser is not restricted.
3. Solid risers are not required for *spiral stairways* constructed in accordance with Section 1011.10.

[BE] 1011.7.1 Stairway walking surface.

The walking surface of treads and landings of a *stairway* shall not be sloped steeper than 1 unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $^1/_2$-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking *structures* ~~accessible~~ open to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^1/_8$ inches (29 mm) cannot pass through the opening.

[BE] 1015.2 Where required.

Guards shall be located along open-sided walking surfaces, such as *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side and at the perimeter of *occupiable roofs* . *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9 of the International Building Code.

Exception: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including *stairs* leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, *ramps* and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not ~~accessible~~ open to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where approved guards are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

E1-24 Part II

IFC: SECTION 202, 907.8.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org); Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2024 International Fire Code

Revise as follows:

WILDFIRE RISK AREA. Land that is covered with grass, grain, brush or forest, whether privately or publicly owned, ~~which is so situated or is of such inaccessible location that~~ where a fire originating upon it would present an abnormally difficult job of suppression or would result in great or unusual damage through fire or such areas designated by the *fire code official*.

907.8.2 Testing.
Testing shall be performed in accordance with the schedules in NFPA 72 or more frequently where required by the *fire code official*. Records of testing shall be maintained.

Exception: Devices or equipment ~~that are inaccessible~~ located without access because of safety considerations shall be tested during scheduled shutdowns where *approved* by the *fire code official*, but not less than every 18 months.

E1-24 Part III

IWUIC: A103.2, TABLE C101.1, G101.3.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org); Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2024 International Wildland Urban Interface Code

Revise as follows:

A103.2 ~~Trespassing on posted private property~~ Restricted areas.
Where the *code official* determines that a specific area within a *wildland-urban interface area* presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or ~~accessibility~~ open to the public, such areas shall be restricted or closed until changed conditions warrant termination of such restriction or closure. Such areas shall be posted in accordance with Section A103.2.1.

TABLE C101.1 FIRE HAZARD SEVERITY FORM

Portions of table not shown remain unchanged.

A. Subdivision Design Points	
3. ~~Accessibility~~ Vehicle access	
Road grade 5% or less	1___
Road grade more than 5%	3___

G101.3.2 Alternative water supply systems for exposure protection.
Pools and spas are often offered as an alternative water source for fire departments. These water sources must be reliable and able to be accessed to be of any use by fire protection forces. ~~Accessibility~~ Access means that the fire department ~~must be~~ is able to withdraw the water without having to go through extraordinary measures such as knocking down fences or having to set up drafting situations. Designs have been created to put liquid- or gas-fueled pumps or gravity valves on pools and spas to allow fire departments to access these water systems. A key vulnerability to the use of these alternative water systems is loss of electrical power. When the reliability of a water system depends on external power sources, it cannot be relied upon by fire fighters to be available in a worst-case scenario.

E1-24 Part IV

IFC: SECTION 202; IFGC: SECTION 202; IMC®: SECTION 202, 506.3.8, 603.4.1; IPC: SECTION 202, 712.2, 1111.1

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org); Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2024 International Fire Code

[M] ACCESS (TO). That which enables a device, appliance or equipment to be reached by *ready access* or by a means that first requires the removal or movement of a panel or similar obstruction [see also "Ready access (to)"].

Revise as follows:

[M] READY ACCESS (TO). That which enables a device, appliance or equipment to be directly reached, without requiring the removal or movement of any panel or similar obstruction [see also "Access (to)"].

2024 International Fuel Gas Code

Revise as follows:

[M] ACCESS (TO). That which enables a device, *appliance* or *equipment* to be reached by *ready access* or by a means that first requires the removal or movement of a panel, ~~door~~ or similar obstruction (see also "Ready access (to)").

[M] READY ACCESS (TO). That which enables a device, *appliance* or *equipment* to be directly reached, without requiring the removal or movement of any panel~~, door~~ or similar obstruction (see also "*Access (to)*").

2024 International Mechanical Code

ACCESS (TO). That which enables a device, *appliance* or *equipment* to be reached by *ready access* or by a means that first requires the removal or movement of a panel or similar obstruction [see also "*Ready access (to)*"].

Revise as follows:

NET OCCUPIABLE FLOOR AREA. The floor area of an *occupiable space* defined by the inside surfaces of its walls but excluding shafts, column enclosures and other permanently enclosed, ~~inaccessible and~~ unoccupiable areas and not provided with access. Obstructions in the space such as furnishings, display or storage racks and other obstructions, whether temporary or permanent, shall not be deducted from the space area.

READY ACCESS (TO). That which enables a device, *appliance* or *equipment* to be directly reached, without requiring the removal or movement of any panel or similar obstruction [see also "*Access (to)*"].

506.3.8 Grease duct cleanouts and openings. Grease duct cleanouts and openings shall comply with all of the following:

1. Grease ducts shall not have openings except where required for the operation and maintenance of the system.
2. Sections of grease ducts ~~that are inaccessible~~ that cannot be accessed from the hood or discharge openings shall be provided with cleanout openings spaced not more than 20 feet (6096 mm) apart and not more than 10 feet (3048 mm) from changes in direction greater than 45 degrees (0.79 rad).
3. Cleanouts and openings shall be equipped with tight-fitting doors constructed of steel having a thickness not less than that required for the grease duct.
4. Cleanout doors shall be installed liquid tight.
5. Door assemblies including any frames and gaskets shall be *approved* for the application and shall not have fasteners that penetrate the grease duct.
6. Gasket and sealing materials shall be rated for not less than 1,500°F (816°C).

7. *Listed* door assemblies shall be installed in accordance with the manufacturer's instructions.

603.4.1 Minimum fasteners. Round metallic ducts shall be mechanically fastened by means of not less than three sheet metal screws or rivets spaced equally around the joint.

Exception: Where a duct connection is made that is partially ~~inaccessible~~ cannot be accessed, three screws or rivets shall be equally spaced on the exposed portion so as to prevent a hinge effect.

2024 International Plumbing Code

Revise as follows:

[M] ACCESS (TO). That which enables a fixture, appliance or equipment to be reached by *ready access* or by a means that first requires the removal or movement of a panel or similar obstruction (see also "Ready access (to)").

[M] READY ACCESS (TO). That which enables a fixture, appliance or equipment to be directly reached without requiring the removal or movement of any panel or similar obstruction and ~~without the use of a portable ladder, step stool or similar device~~ (see also "Access (to)").

712.2 Valves required.
A check valve and a full-open valve located on the discharge side of the check valve shall be installed in the pump or ejector discharge piping between the pump or ejector and the gravity drainage system. *Access* shall be provided to such valves. Such valves shall be located above the sump cover required by Section 712.1 or, where the discharge pipe from the ejector is below grade, the valves shall be ~~accessibly~~ located outside the sump below grade in an access pit with a removable *access* cover.

1111.1 Subsoil drains.
Subsoil drains shall be open-jointed, horizontally split or perforated pipe conforming to one of the standards listed in Table 1102.5. Such drains shall be not less than 4 inches (102 mm) in diameter. Where the building is subject to backwater, the subsoil drain shall be protected by ~~an accessibly located~~ a backwater valve that is provided with access. Subsoil drains shall discharge to a trapped area drain, sump, dry well or *approved* location above ground. The subsoil sump shall not be required to have either a gastight cover or a vent. The sump and pumping system shall comply with Section 1113.1.

E1-24 Part V

IRC: TABLE M1306.2, M1803.4.1, M2006.2, P2704.1, P2706.1, P2712.6, P2720.2, P2722.4, P2903.9.5, P2903.10.1, P2903.10.2, P2903.10.3, P2903.11, P2911.5, P2911.8.1, P2911.9, P2912.4, P2912.8, P2912.12, P3005.1.5, P3007.2, P3007.3.2, P3302.1, P3303.1.2, P3303.1.4

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org); Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2024 International Residential Code

Revise as follows:

TABLE M1306.2 REDUCTION OF CLEARANCES WITH SPECIFIED FORMS OF PROTECTION [a, c, d, e, f, g, h, i, j, k, l]

Portions of table not shown remain unchanged.

For SI: 1 inch = 25.4 mm, 1 pound per cubic foot = 16.019 kg/m^3, °C = [(°F) – 32/1.8], 1 Btu/(h × ft^2× °F/in.) = 0.001442299 (W/cm^2× °C/cm).

a. Reduction of clearances from combustible materials shall not interfere with combustion air, draft hood clearance and relief, and ~~accessibility of~~ access for servicing.

b. Clearances shall be measured from the surface of the heat-producing appliance or equipment to the outer surface of the combustible material or combustible assembly.

c. Spacers and ties shall be of noncombustible material. Spacers and ties shall not be used directly opposite appliance or connector.

d. Where all clearance reduction systems use a ventilated airspace, adequate provision for air circulation shall be provided as described (see Figures M1306.1 and M1306.2).

e. There shall be not less than 1 inch between clearance reduction systems and combustible walls and ceilings for reduction systems using ventilated airspace.

f. If a wall protector is mounted on a single flat wall away from corners, adequate air circulation shall be permitted to be provided by leaving only the bottom and top edges or only the side and top edges open with not less than a 1-inch air gap.

g. Mineral wool and glass fiber batts (blanket or board) shall have a minimum density of 8 pounds per cubic foot and a minimum melting point of 1,500°F.

h. Insulation material used as part of a clearance reduction system shall have a thermal conductivity of 1.0 Btu inch per square foot per hour °F or less. Insulation board shall be formed of noncombustible material.

i. There shall be not less than 1 inch between the appliance and the protector. The clearance between the appliance and the combustible surface shall not be reduced below that allowed in this table.

j. All clearances and thicknesses are minimum; larger clearances and thicknesses are acceptable.

k. Listed single-wall connectors shall be permitted to be installed in accordance with the terms of their listing and the manufacturer's instructions.

l. For limitations on clearance reduction for solid-fuel-burning appliances, see Section M1306.2.3.

M1803.4.1 Closure and ~~accessibility~~ access.

A noncombustible seal shall be provided below the point of connection to prevent entry of room air into the flue. Means shall be provided for *access to* the flue for inspection and cleaning.

M2006.2 Clearances.
The clearances shall not interfere with *combustion air*, draft hood or flue terminal relief, or ~~accessibility~~ access for servicing.

P2704.1 Slip joints.
Slip-joint connections shall be installed only for tubular waste piping and only between the waste outlet of a fixture and the connection to the drainage piping. Slip-joint connections shall be made with an *approved* elastomeric sealing gasket. Slip-joint connections shall ~~be accessible. Such access shall provide~~ be provided with access. Such access shall be provided by an opening that is not less than 12 inches (305 mm) in its smallest dimension.

P2706.1 General. For other than hub drains that receive only clear-water waste and standpipes, a removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall not be installed in concealed spaces. Waste receptors shall not be installed in plenums, attics, *crawl spaces* or interstitial spaces above ceilings and below floors. Ready access to waste ~~Waste~~ receptors shall be provided~~readily accessible~~.

P2712.6 Access. ~~Parts~~ Access to the parts in a flush tank shall be ~~accessible~~ provided for repair and replacement.

P2720.2 Piping drainage. The circulation pump shall be ~~accessibly~~ located above the crown weir of the trap. Access to the circulation pump shall be provided. The pump drain line shall be properly graded to ensure minimum water retention in the volute after fixture use. The circulation piping shall be installed to be self-draining.

P2722.4 Individual pressure-balancing in-line valves for individual fixture fittings.
Individual pressure-balancing in-line valves for individual fixture fittings shall comply with ASSE 1066. Such valves ~~shall be installed in an accessible location and~~ shall not be used as a substitute for the balanced pressure, thermostatic or combination shower valves required in Section P2708.4. Access to such valves shall be provided.

P2903.9.5 Hose bibb bleed.
~~A *readily accessible*~~ An air bleed shall be installed in hose bibb supplies at the manifold or at the hose bibb exit point. Ready access to the air bleed shall be provided.

P2903.10.1 Service valve. Each *dwelling unit* shall be provided with a ~~an accessible~~ *main* shutoff valve near the entrance of the water service. The valve shall be of a full-open type having nominal restriction to flow, with provision for drainage such as a bleed orifice or installation of a separate drain valve. Additionally, the water service shall be valved at the curb or *lot line* in accordance with local requirements.

P2903.10.2 Water heater valve. A ~~readily accessible~~ full-open valve with ready access shall be installed in the cold-water supply pipe to each water heater at or near the water heater.

P2903.10.3 Fixture valves and access. Shutoff valves shall be required on each fixture supply pipe to each plumbing *appliance* and to each plumbing fixture other than bathtubs and showers. ~~Valves~~ Access shall be provided to valves serving individual plumbing fixtures, *plumbing appliances,* risers and branches ~~shall be accessible~~.

P2903.11 Hose bibb.
Hose bibbs subject to freezing, including the “frostproof” type, shall be equipped with ~~an accessible~~ a stop-and-waste-type valve inside the *building* so that they can be controlled and drained during cold periods.

Exception: Frostproof hose bibbs installed such that the stem extends through the building insulation into an open heated or *semiconditioned space* need not be separately valved (see Figure P2903.11).

P2911.5 Filtration. Untreated water collected for reuse shall be filtered as required for the intended end use. Access shall be provided to filters ~~Filters shall be accessible~~ for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves immediately upstream and downstream to allow for isolation during maintenance.

P2911.8.1 Bypass valve.
One three-way diverter valve certified to NSF 50 or other *approved* device shall be installed on collection piping upstream of each storage tank, or drainfield, as applicable, to divert untreated on-site reuse sources to the sanitary sewer to allow servicing and inspection of Bypass valves shall be *labeled* to indicate the direction of flow, connection and storage tank or drainfield connection. Access shall be provided to bypass ~~Bypass~~ valves ~~shall be installed in accessible locations~~. Two shutoff valves shall not be installed to serve as a bypass valve.

P2911.9 Pumping and control system.
Access shall be provided to mechanical ~~Mechanical~~ equipment including pumps, valves and filters ~~shall be accessible~~ and shall be removable in order to perform *repair*, maintenance and cleaning. The minimum flow rate and *flow pressure* delivered by the pumping system shall be appropriate for the application and in accordance with Section P2903.

P2912.4 Roof washer. An amount of rainwater shall be diverted at the beginning of each rain event, and not allowed to enter the storage tank, to wash accumulated debris from the collection surface. The amount of rainfall to be diverted shall be field adjustable as necessary to minimize storage tank water contamination. The roof washer shall not rely on manually operated valves or devices and shall operate automatically. Diverted rainwater shall not be drained to the roof surface and shall be discharged in a manner consistent with the stormwater runoff requirements of the *jurisdiction*.Access shall be provided to roof ~~Roof~~ washers ~~shall be accessible~~ for maintenance and service.

P2912.8 Filtration. Collected rainwater shall be filtered as required for the intended end use. Access shall be provided to filters ~~Filters shall be accessible~~ for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves installed immediately upstream and downstream to allow for isolation during maintenance.

P2912.12 Pumping and control system.
Access shall be provided to mechanical ~~Mechanical~~ equipment, including pumps, valves and filters ~~shall be easily accessible~~ and shall be removable in order to perform repair, maintenance and cleaning. The minimum flow rate and *flow pressure* delivered by the pumping system shall be appropriate for the application and in accordance with Section P2903.

P3005.1.5 Provisions for future fixtures. Where drainage has been roughed-in for future fixtures, the drainage unit values of the future fixtures shall be considered in determining the required drain sizes. Such future installations shall be terminated with ~~an accessible~~ a permanent plug or cap fitting. Access to such plugs or caps shall be provided.

P3007.2 Valves required.
A check valve and a *full open valve* located on the discharge side of the check valve shall be installed in the pump or ejector discharge piping between the pump or ejector and the gravity drainage system. Access shall be provided to such valves. Such valves shall be located above the sump cover required by Section P3007.3.2 or, where the discharge pipe from the ejector is below grade, the valves shall be ~~accessibly~~ located outside the sump below grade in an access pit with a removable access cover.

P3007.3.2 Sump.
The sump shall be not less than 18 inches (457 mm) in diameter and 24 inches (610 mm) deep, unless otherwise *approved*. ~~The sump shall be accessible and~~ Access shall be provided to the sump. The sump shall be located so that drainage flows into the sump by gravity. The sump shall be constructed of tile, concrete, steel, plastic or other *approved* materials. The sump bottom shall be solid and provide permanent support for the pump. The sump shall be fitted with a gastight removable cover that is installed not more than 2 inches (51 mm) below grade or floor level. The cover shall be adequate to support anticipated loads in the area of use. The sump shall be vented in accordance with Chapter 31.

P3302.1 Subsoil drains.
Subsoil drains shall be open-jointed, horizontally split or perforated pipe conforming to one of the standards indicated in Table P3302.1. Such drains shall be not less than 4 inches (102 mm) in diameter. Where the *building* is subject to backwater, the *subsoil drain* shall be protected by ~~an accessibly located~~ backwater valve. Access shall be provided to the backwater valve. *Subsoil drains* shall discharge to a trapped area drain, sump, dry well or *approved* location above ground. The subsoil sump shall not be required to have either a gastight

cover or a vent. The sump and pumping system shall comply with Section P3303.

P3303.1.2 Sump pit.
The sump shall be not less than 18 inches (457 mm) in diameter and 24 inches (610 mm) deep, unless otherwise *approved*. ~~The sump shall be *accessible* and~~ ~~The sump shall be accessible~~ Access shall be provided to the sump. The sump shall be located so that all drainage flows into the sump by gravity. The sump shall be constructed of tile, steel, plastic, cast iron, concrete or other *approved* material, with a removable cover adequate to support anticipated loads in the area of use. The sump floor shall be solid and provide permanent support for the pump.

P3303.1.4 Piping.
Discharge piping shall meet the requirements of Sections P3002.1, P3002.2, P3002.3 and P3003. Discharge piping shall include ~~an *accessible*~~ a full-flow check valve that is provided with access. Pipe and fittings shall be the same size as, or larger than, the pump discharge tapping.

Reason: Because the term ‘accessible’ is most commonly understood as requiring access for persons with disabilities we are making the changes to delete the word accessible from the remaining codes and replace it with other words, defined terms or phrases that are not attributed to requiring access for the physically disabled. Many of the codes use the defined term ‘access (to)’ or ‘ready access (to)’ for access by maintenance and service personnel or fire departments. This proposal provides clarity and consistency in the remaining codes where those coordination modifications missed or came in as part of new code changes.
This a correlation piece for proposals over the last couple of cycles. This effort was started by the CACs in 2015/16 code change cycle, and continued in 2018/19. This proposal is to provide coordination with the action taken with -P84-15, M2-15, RB2-16, F12-16, CE137-16 Part 1, CE29-19 Part 1 and 2 . G1-21 Part 1 was disapproved; however Part 2 through 7 were approved.

Correlative pieces will be entered in Group B for parts of IRC, IPMC, IZC and IECC.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), the ICC Fire Code Action Committee (FCAC) and ICC Plumbing Mechanical Gas Code Action Committee (PMGCAC)

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Insert FCAC paragraph

PMGCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 PMGCAC has held 26 virtual meetings open to any interested party. In addition, there were several virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the PMGCAC website at PMGCAC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a coordination of terms with no changes to construction requirements. See reason statement for additional information on coordination with previous proposals.

E2-24 Part I

IBC: SECTION 1001, 1001.1, [F] SECTION 1002, [F] 1002.1, 1001.2, [F] 1002.2, SECTION 1003, 1003.1; IFC: SECTION 1002 (New), [BE] 1001.2, SECTION 1002, [BE] 1002.1, SECTION 1003, [BE] 1003.1

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE/WILDLAND-URBAN INTERFACE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

SECTION 1001
~~ADMINISTRATION~~ GENERAL

1001.1 ~~General~~ Scope.
Buildings or portions thereof shall be provided with a *means of egress* system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of all parts of the *means of egress* components required to provide an *approved means of egress* from *structures* and portions thereof.

~~[F]~~ SECTION 1002
MAINTENANCE, ALTERATIONS AND PLANS

[F] 1002.1 Maintenance.
Means of egress shall be maintained in accordance with the *International Fire Code* .

Revise as follows:

~~1001.2~~ 1002.2 ~~Minimum requirements~~ Alterations.
~~It shall be unlawful to alter a *building* or *structure* in a manner that will reduce the~~ The number of *exits* or the minimum width or required capacity of the *means of egress* shall not be altered to less than required by this code.

[F] ~~1002.2~~ 1002.3 Fire safety and evacuation plans.
Fire safety and evacuation plans shall be provided for all occupancies and *buildings* where required by the *International Fire Code* . Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the International Fire Code.

SECTION 1003
GENERAL MEANS OF EGRESS

Revise as follows:

1003.1 ~~Applicability~~ General.
The ~~general~~ requirements specified in Sections 1003 through 1015 shall apply to all three elements of the *means of egress* system, in addition to those specific requirements for the *exit access*, the *exit* and the *exit discharge* detailed elsewhere in this chapter.

2024 International Fire Code

Add new text as follows:

SECTION 1002
ALTERATIONS

Revise as follows:

[BE] ~~**1001.2**~~ **1002.1** ~~**Minimum requirements**~~ **Alterations.** ~~It shall be unlawful to alter a building or structure in a manner that will reduce the~~ The number of *exits* or the capacity of the *means of egress* shall not be altered to less than required by this code.

Delete without substitution:

~~SECTION 1002~~
~~DEFINITIONS~~

~~**[BE] 1002.1 Definitions.**~~
~~The following terms are defined in Chapter 2:~~
~~**ACCESSIBLE MEANS OF EGRESS.**~~

~~**AISLE.**~~

~~**AISLE ACCESSWAY.**~~

~~**ALTERNATING TREAD DEVICE.**~~

~~**AREA OF REFUGE.**~~

~~**AUTOMATIC FLUSH BOLT.**~~

~~**BLEACHERS.**~~

~~**BREAKOUT.**~~

~~**CIRCULATION PATH.**~~

~~**COMMON PATH OF EGRESS TRAVEL.**~~

~~**CONSTANT LATCHING BOLT.**~~

~~**CORRIDOR.**~~

~~**DEAD BOLT.**~~

~~**DEFEND-IN-PLACE.**~~

~~**DOOR, BALANCED.**~~

~~**EGRESS COURT.**~~

~~**EMERGENCY ESCAPE AND RESCUE OPENING.**~~

~~**EXIT.**~~

~~**EXIT ACCESS.**~~

~~**EXIT ACCESS DOORWAY.**~~

~~**EXIT ACCESS RAMP.**~~

~~**EXIT ACCESS STAIRWAY.**~~

~~**EXIT DISCHARGE.**~~

~~**EXIT DISCHARGE, LEVEL OF.**~~

~~**EXIT PASSAGEWAY.**~~

~~EXTERIOR EXIT RAMP.~~

~~EXTERIOR EXIT STAIRWAY.~~

~~FIRE EXIT HARDWARE.~~

~~FIXED SEATING.~~

~~FLIGHT.~~

~~FLOOR AREA, GROSS.~~

~~FLOOR AREA, NET.~~

~~FOLDING AND TELESCOPIC SEATING.~~

~~GRADE FLOOR EMERGENCY ESCAPE AND RESCUE OPENINGS.~~

~~GRANDSTAND.~~

~~GUARD.~~

~~HANDRAIL.~~

~~HORIZONTAL EXIT.~~

~~INTERIOR EXIT RAMP.~~

~~INTERIOR EXIT STAIRWAY.~~

~~LOW ENERGY POWER-OPERATED DOOR.~~

~~MANUAL BOLT.~~

~~MEANS OF EGRESS.~~

~~MERCHANDISE PAD.~~

~~NOSING.~~

~~OCCUPANT LOAD.~~

~~OPEN-AIR ASSEMBLY SEATING.~~

~~OPEN-ENDED CORRIDOR.~~

~~OVERHEAD DOORSTOP.~~

~~PANIC HARDWARE.~~

~~PHOTOLUMINESCENT.~~

~~POWER-ASSISTED DOOR.~~

~~POWER-OPERATED DOOR.~~

~~PUBLIC WAY.~~

~~RAMP.~~

~~SCISSOR STAIRWAY.~~

~~SELF-LUMINOUS.~~

~~SMOKE-PROTECTED ASSEMBLY SEATING.~~

~~STAIR.~~

~~STAIRWAY.~~

~~STAIRWAY, INTERIOR EXIT.~~

~~STAIRWAY, SPIRAL.~~

~~WINDER.~~

Revise as follows:

SECTION 1003
GENERAL MEANS OF EGRESS

[BE] 1003.1 ~~Applicability~~ General.

The ~~general~~ requirements specified in Sections 1003 through 1015 shall apply to all three elements of the *means of egress* system, in addition to those specific requirements for the *exit access*, the *exit* and the *exit discharge* detailed elsewhere in this chapter.

E2-24 Part I

E2-24 Part II

IFC: SECTION 1001, 1001.1

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Fire Code

Revise as follows:

SECTION 1001
~~ADMINISTRATION~~ GENERAL

1001.1 ~~General~~ Scope.
Buildings or portions thereof shall be provided with a *means of egress* system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of all parts of the *means of egress* components required to provide an *approved means of egress* from structures and portions thereof. Sections 1003 through 1031 shall apply to new construction. Section 1032 shall apply to existing buildings.

Exception: Detached one- and two-family *dwellings* and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress and their accessory structures shall comply with the *International Residential Code*.

Reason: This is a reorganization of the beginning of Chapter 10 in IBC and IFC. This is coordinated with the larger scoping proposals for all the codes and the proposal to move all IFC definitions to Chapter 2 for consistency with the rest of the codes.

- Renamed IBC/IFC Section 1001.1 to “Scope” in-line with other Chapters.
- Renamed IBC/IFC Section 1003.1 to “General” in-line with other Chapters.
- Moved IBC Section 1001.2 "Minimum requirements” to be coordinated with the existing building provisions in IBC 1002.

Among other things this change makes the egress chapter of the IBC and IFC become more in-line with other chapters of the code and makes navigating the provisions more intuitive.

The change to 1001.2 is to remove "it shall be unlawful" and to provide better code language for alterations.

There will be correlative changes during Group B to repeat current IBC Section 1001.2 in IEBC as Section 302.6; and current IBC Section 1002.2 (Fire and safety evacuation plans) in IBC as Section 107.2.3.1.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This language is clearer and more concise. This change is primarily editorial.

E3-24

IBC: 1003.3.1, 1003.4; IFC: [BE] 1003.3.1, [BE] 1003.4

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1003.3.1 Headroom.
Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum headroom of 80 inches (2032 mm) is provided over any *circulation paths*, including walks, *corridors*, *aisles* and passageways. Not more than 50 percent of the ceiling area of a ~~*means of egress*~~ circulation path shall be reduced in height by protruding objects.

Exception: Door closers, *overhead doorstops*, frame stops, power door operators and electromagnetic door locks shall be permitted to project into the door opening height not lower than 78 inches (1980 mm) above the floor.

A barrier shall be provided where the vertical clearance above a *circulation path* is less than 80 inches (2032 mm) high above the finished floor. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the finished floor.

1003.4 Slip-resistant surface.
Circulation paths ~~of the *means of egress*~~ shall have a slip-resistant surface and be securely attached.

2024 International Fire Code

Revise as follows:

[BE] 1003.3.1 Headroom.
Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum headroom of 80 inches (2032 mm) is provided over any circulation paths, including walks, *corridors*, *aisles* and passageways. Not more than 50 percent of the ceiling area of a ~~*means of egress*~~ circulation path shall be reduced in height by protruding objects.

Exception: Door closers, overhead doorstops, frame stops, power door operators and electromagnetic door locks shall be permitted to project into the door opening height not lower than 78 inches (1980 mm) above the floor.

A barrier shall be provided where the vertical clearance above a circulation path is less than 80 inches (2032 mm) high above the finished floor. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the finished floor.

[BE] 1003.4 Slip-resistant surface. Circulation paths ~~of the *means of egress*~~ shall have a slip-resistant surface and be securely attached.

Reason: Section 1003 applies to all parts of the *means of egress* system.

- In IBC/IFC 1003.3 “*circulation path*” is not followed by “of the *means of egress*”.
- In IBC/IFC 1003.4 “*circulation path*” is followed by “of the *means of egress*”.

The inclusion of “of the *means of egress*” in one, but not the other, gives the unintended mistaken interpretation that the provisions of section 1003.3 apply to all circulation paths and the provisions of section 1003.4 applies only circulations paths of the means of egress.

This proposal is primarily editorial and to remove the possibility of misinterpretation.

Please refer to the definition of 'circulation path'. The term is also used in Sections 1003.3 and 1003.3.3.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an editorial clarification for circulation paths. There are not change to construction requirements.

E3-24

E4-24

IBC: 1003.3.3, 1003.3.1, 1003.3.4; IFC: [BE] 1003.3.3, [BE] 1003.3.1, [BE] 1003.3.4

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

1003.3 Protruding objects.
Protruding objects on *circulation paths* shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

Revise as follows:

~~1003.3.3~~ 1003.3.1 ~~Horizontal projections~~ Protrusion limits.
Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finished floor shall not ~~project horizontally~~ protrude more than 4 inches (102 mm) horizontally into the *circulation path*.

Exception: *Handrails* ~~are permitted to~~ shall not protrude more than $4^1/_2$ inches (114 mm) from the wall or *guard*.

1003.3.2 Post-mounted objects.
A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the finished floor. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (686 mm) maximum or 80 inches (2032 mm) minimum above the finished floor or ground.

Exception: These requirements shall not apply to sloping portions of *handrails* between the top and bottom riser of *stairs* and above the ramp run.

Revise as follows:

~~1003.3.1~~ 1003.3.3 ~~Headroom~~ Vertical clearance.
Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum ~~headroom~~ vertical clearance of 80 inches (2032 mm) is provided over any *circulation paths*, including walks, *corridors*, *aisles* and passageways. Not more than 50 percent of the ceiling area of a *means of egress* shall be reduced in height by protruding objects.

Exception: Door closers, *overhead doorstops*, frame stops, power door operators and electromagnetic door locks shall be permitted to project into the door opening height not lower than 78 inches (1980 mm) above the floor.

A barrier shall be provided where the vertical clearance above a *circulation path* is less than 80 inches (2032 mm) high above the finished floor. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the finished floor.

1003.3.4 ~~Clear~~ Required clear width.
Protruding objects shall not reduce the minimum clear width of *accessible routes*.

2024 International Fire Code

[BE] 1003.3 Protruding objects.
Protruding objects on circulation paths shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

Revise as follows:

[BE] ~~1003.3.3~~ 1003.3.1 ~~Horizontal projections~~ Protrusion limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finished floor shall not ~~project horizontally~~ protrude more than 4 inches (102 mm) horizontally into the circulation path.

Exception: *Handrails* ~~are permitted to~~ shall not protrude more than $4^1/_2$ inches (114 mm) from the wall or guard.

[BE] 1003.3.2 Post-mounted objects. A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the finished floor. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (686 mm) maximum or 80 inches (2032 mm) minimum above the finished floor or ground.

Exception: These requirements shall not apply to sloping portions of *handrails* between the top and bottom riser of *stairs* and above the *ramp* run.

Revise as follows:

[BE] ~~1003.3.1~~ 1003.3.3 ~~Headroom~~ Vertical clearance.

Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum ~~headroom~~ vertical clearance of 80 inches (2032 mm) is provided over any circulation paths, including walks, *corridors*, *aisles* and passageways. Not more than 50 percent of the ceiling area of a *means of egress* shall be reduced in height by protruding objects.

Exception: Door closers, overhead doorstops, frame stops, power door operators and electromagnetic door locks shall be permitted to project into the door opening height not lower than 78 inches (1980 mm) above the floor.

A barrier shall be provided where the vertical clearance above a circulation path is less than 80 inches (2032 mm) high above the finished floor. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the finished floor.

[BE] 1003.3.4 Required clear ~~Clear~~ width. Protruding objects shall not reduce the minimum clear width of *accessible routes*.

Reason: IBC 1003.3 and ICC A117.1 requirements are essentially the same but worded differently. This change is editorial to coordinate the sequence of the requirements between the the two documents, with minor readability modifications. Headroom is addressed in Section 1208 for interior space dimensions.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The requirements between ICC A117.1 and the IBC/IFC are essentially the same. There are no significant changes with this code change for coordination between the two documents.

E4-24

E5-24

IBC: 1003.7; IFC: [BE] 1003.7

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1003.7 Elevators, escalators and moving walks.
Elevators, escalators and moving walks shall not be used as a component of a required *means of egress* ~~from any other part of the *building*~~.

Exception: Elevators used as an *accessible means of egress* in accordance with Section 1009.4.

2024 International Fire Code

Revise as follows:

[BE] 1003.7 Elevators, escalators and moving walks.
Elevators, escalators and moving walks shall not be used as a component of a required *means of egress* ~~from any other part of the building~~.

Exception: Elevators used as an *accessible means of egress* in accordance with Section 1009.4.

Reason: “From any other part of the building” is redundant. This code change removes redundancy for clarity.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal removes redundant language.

E6-24

IBC: 1004.4; IFC: [BE] 1004.4

Proponents: Gabriel Levy, PE, incandescence life safety, inc, Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

Revise as follows:

~~1004.4~~ 1003.7 Multiple occupancies.
Where a *building* contains two or more occupancies, the *means of egress* requirements shall apply to each portion of the *building* based on the occupancy of that space. Where two or more occupancies utilize portions of the same *means of egress* system, those egress components shall meet the more stringent requirements of all occupancies that are served.

2024 International Fire Code

Revise as follows:

[BE] ~~1004.4~~ 1003.7 Multiple occupancies. Where a building contains two or more occupancies, the *means of egress* requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same *means of egress* system, those egress components shall meet the more stringent requirements of all occupancies that are served.

Reason: IBC 1004 is intended to provide requirements for occupant load, not occupancy classification. The "Multiple occupancies" code provision relates to occupancy classification and is a general means of egress requirement. Therefore, it is more appropriate in IBC 1003. It is proposed that the multiple occupancies section be moved to 1003.7, after 1003.6 (Means of egress continuity). This change will make it clear that the multiple occupancies section is a general requirement regarding all means of egress requirements, not just occupant load.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal rearranges the provisions into a logical order based on the traditional method of design and construction. There is no change to the technical content of the provisions. By modifying the section numbers and titles only there will be no cost impact when approving this proposal.

E7-24

IBC: TABLE 1004.5; IFC: [BE] TABLE 1004.5

Proponents: William Cooper, Protection Engineers, LLC, FAA Fire Protection Engineering Code Team (wacooper@protengineers.com); David Clark, Protection Engineers, LLC, FAA Fire Protection Engineering Code Team (dwclark@protengineers.com)

2024 International Building Code

Revise as follows:

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Airport traffic control tower cab	40 gross
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Floor area in square feet per occupant.

2024 International Fire Code

Revise as follows:

[BE] TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Airport traffic control tower cab	40 gross
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise room	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2 of the International Building Code
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Reason: Empirical evidence from the design of Federal Aviation Administration airport traffic control towers demonstrates a 400 sf cab serves approximately 5 controller positions, a 500 sf cab serves approximately 6 to 7 controller positions, a 600 sf cab serves approximately 7 to 8 controller positions. The occupant load of an airport traffic control tower observation level (cab) is based upon the anticipated occupant load during a shift change of staff or twice the number of controller positions. Additionally, the cab is occasionally occupied by others in addition to air traffic controllers to include survey and maintenance personnel and other visitors, which results in similar occupant loading. Note that these visitors would not be expected during the critical shift change operations. Currently,

establishment of the occupant load for these spaces is not adequately captured in the ICC standards.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This added occupant load factor reflects the Federal Aviation Administration practice and it's incorporation will harmonize the ICC occupant load factors and federal practice.

E7-24

E8-24

IBC: TABLE 1004.5, 1004.8 (New); IFC: [BE] TABLE 1004.5, 1004.9 (New)

Proponents: William Koffel, Koffel Associates, Inc., Semiconductor Industry Association (wkoffel@koffel.com)

2024 International Building Code

Revise as follows:

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Automated fabricaion and manufacturing areas	See Section 1004.9
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Floor area in square feet per occupant.

Add new text as follows:

1004.9 Automated fabrication and manufacturing areas.

The *occupant load* factor for Group H-5 automated fabrication and manufacturing areas with a lower density of occupants than would normally be expected in a typical Group H-5 occupancy environment shall be applied to such areas. Where *approved* by the *building official*, the *occupant load* for automated fabrication and manufacturing areas shall be the actual *occupant load*, but not less than one occupant per 300 square feet (27.87 m^2) of gross occupiable floor space.

2024 International Fire Code

Revise as follows:

[BE] TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Automated fabricaion and manufacturing areas	See Section 1004.9
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2 of the International Building Code
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Add new text as follows:

1004.9 Automated fabrication and manufacturing areas. The *occupant load* factor for Group H-5 automated fabrication and manufacturing areas with a lower density of occupants than would normally be expected in a typical Group H-5occupancy environment shall be applied to such areas. Where *approved* by the *building official*, the *occupant load* for automated fabrication and manufacturing areas shall be the actual *occupant load*, but not less than one occupant per 300 square feet (27.87 m^2) of gross occupiable floor space.

Reason: As the manufacturing of semiconductors is becoming increasingly automated, there are few personnel in the fabrication and manufacturing areas. Similar to what is done for other occupancies, the proposed language provides the code official with the ability to approve an occupant load determination that uses a concentration of something less than 1 person per 200 sq. ft, with a limit that the concentration cannot be less than 1 person per 300 sq. ft.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0

Estimated Immediate Cost Impact Justification (methodology and variables):

While reducing the occupant load itself does not reduce construction cost, the associated code requirements for egress capacity, plumbing fixtures, etc. could result in a decrease in the cost of construction.

E8-24

E9-24

IFC: [BE] TABLE 1004.5; IBC: TABLE 1004.5

Proponents: Greg Johnson, Johnson & Associates Consulting Services, Jay Peters, Codes and Standards International (gjohnsonconsulting@gmail.com); Jay Peters, Codes and Standards International LLC, IPS Corporation (peters.jay@me.com)

2024 International Fire Code

Revise as follows:

[BE] TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
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Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Information technology equipment facilities	~~300~~ 500 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2 of the International Building Code
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

2024 International Building Code

Revise as follows:

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
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Industrial areas	100 gross
Information technology equipment facilities	~~300~~ 500 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Floor area in square feet per occupant.

Reason: Codes and Standards International originally proposed the 300 gross OLF for Information Technology Equipment Facilities (ITEF) in the last code development cycle using atmospherically derived methodology. Subsequent to our ability to modify the value we heard from ITEF designers that the industry designs ITEFs using a 500 gross OLF. Given the very large size of many of these facilities the lower OLF creates a substantial design and cost burden for no real increase in occupant safety. The occupant load of an ITEF is much more like that of a warehouse than any other use, except that it will typically see even less traffic, being only occasionally occupied for maintenance of the information technology equipment.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

The estimated immediate cost savings of the proposal is this:

Assume a data center of 195,000 square feet.

@1 occupant per 500 sf the means of egress system must accommodate 390 occupants which requires 2 exits.

@ 1 occupant per 300 sf the means of egress system must accommodate 650 occupants which requires 3 exits.

The cost of a steel security exit/entrance door with hardware is estimated at $2,500 (Grainger.com). The average cost of installation of a steel security door is $1,136. (Angi.com). The cost of an exterior commercial grade camera to monitor the door is estimated to be $2,050. ((ALLHDD.com). The average cost to install a commercial security camera is $1,189 (bwfiresecurity.com). The cost of a lighted exit sign with emergency lights is $300 (compliancesigns.com). The cost to install the exit sign is estimated at $450 (safetnose.com).

The total estimated cost saved by not providing an additional exit door is $2,500 + $1,136 + $2,050 + $1,189 + $300 + $450 = **$7,625.**

Estimated Immediate Cost Impact Justification (methodology and variables):

This would reduced expense for unneeded egress system components and would be a subtraction of components no longer needed.

E10-24

IBC: TABLE 1004.5; IFC: [BE] TABLE 1004.5

Proponents: Eirene Knott, BRR Architecture, Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

2024 International Building Code

Revise as follows:

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
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Concourse	100 gross
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Assembly without fixed seats	
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Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Motor Vehicle Repair Garages	
Commercial Motor Vehicle (CMV)	500 gross
Non CMV	200 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Floor area in square feet per occupant.

2024 International Fire Code

Revise as follows:

[BE] TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
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Dormitories	50 gross
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Classroom area	20 net
Exercise rooms	50 gross
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Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
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Kitchens, commercial	200 gross
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Reading rooms	50 net
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Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2 of the International Building Code
Mercantile	60 gross
Motor Vehicle Repair Garages	
Commercial Motor Vehicle (CMV)	500 gross
Non CMV	200 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Reason: Most motor vehicle repair garages will never have an occupant load as high as one would be calculated for by using the industrial occupant load factor of 100 gross square feet per person. On average, most vehicle repair garages will average closer to 500 square feet per person in terms of actual employees on a given shift. Even if a change in shifts is occurring, the occupant load would still not be anywhere near the 100 square feet per person load factor. What I have tried to provide is two different load factors, as commercial

vehicles will take up much more space in a repair garage than the typical passenger vehicles. The term "Commercial Motor Vehicle (CMV)" is a term recognized by the Department of Transportation and applies to vehicles whose weight is more than 10,000 pounds. All other vehicles would then be non-CMV, which would include passenger vehicles. The smaller proposed occupant load factor would apply to these facilities. This would recognize there is more space available for smaller vehicles and thus the potential for an increased occupant load. While this proposed occupant load factor for the CMV is the same as a warehouse, I did not want to add this to the warehouse classification as that should stand on its own.

To give an example, we have a client that builds truck repair garages for CMV's across the country. On average, one of their facilities will be 14,000 square feet. At any given point during the day, the most workers they will have in the building is ten, which would yield an occupant load factor of 1,400, which is not reasonable. By the time one takes into account the space the equipment occupies, the 500 square feet per person is a reasonable occupant load factor for this specific application.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

If anything this would reduce costs as the number of occupants would reduce the number of plumbing fixtures required.

E10-24

E11-24

IBC: TABLE 1004.5; IFC: [BE] TABLE 1004.5

Proponents: Ronald Geren, RLGA Technical Services, LLC, Self (ron@specsandcodes.com)

2024 International Building Code

Revise as follows:

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses, self storage facilities	500 gross

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Floor area in square feet per occupant.

2024 International Fire Code

Revise as follows:

[BE] TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 gross
Concentrated business use areas	See Section 1004.8
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Information technology equipment facilities	300 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2 of the International Building Code
Mercantile	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses, self storage facilities	500 gross

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Reason: There is confusion in the self storage industry regarding the occupant loads associated with self storage facilities. Two occupant load factors for storage could be applicable: 300 gsf (Accessory Storage) and 500 gsf (Warehouses).

According to the Self Storage Association (SSA), the size of a facility can range from 10,000 to 100,000 square feet, with an average size of 56,900 square feet. That amounts to approximately 546 units per facility. Per SSA's "Self Storage Standards and the Modern Community," there is an average of 6.82 trips per day for every 100 units. At 546 units, that would be 30.4 trips per day.

Assuming four occupants per trip, that would total 122 visitors daily. Most self storage facilities operate from 6:00 AM to 10:00 PM (16 hours), which means the average occupancy at any one time is 7.6 occupants, plus 3.5 employees (per SSA statistics), for a total occupant load of 11, or 5,173 sq. ft. per occupant using the average size self storage facility. However, each trip may not be a unique

visit, but several trips by the same visitors. Thus, the total number of unique visitors would likely be less than 122.

Since this does not account for peak periods, the occupant load factor for warehouses of 500 sq. ft. per occupant would provide an occupant load of 114 occupants, which is less than the total number of daily visitors, but reasonable for peak periods of occupancy, since the average of 122 visitors is not expected to be present at any one time. Jurisdictions may be reluctant to allow the use of the warehouse occupant load factor since a self storage facility does not conform to the commonly used definition of a warehouse, which is "a structure or room for the storage or merchandise or commodities" (Merriam-Webster.com). Rarely are self storage facilities used for the storage of "merchandise and commodities."

In many cases, the designers of these facilities have to justify their occupant loads for each jurisdiction and, sometimes, for each project in the same jurisdiction. Therefore, the addition of self storage facilities to Table 1004.5 will eliminate the confusion and provide consistency from jurisdiction to jurisdiction.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

If the accessory storage occupant load factor were used for a slightly larger-than-average self storage facility, around 60,600 sq. ft., the occupant load would be 202 occupants, or 101 males and 101 females. Using the storage plumbing fixture ratios in Table 2902.1 (i.e., 1:100 for water closets and 1:100 for lavatories), two fixtures of each type for each sex would be required. However, if the warehouse occupant load factor was used, the occupant load would drop to 122, or 61 males and 61 females. Thus, only one fixture of each type for each sex would be required.The reduced number of fixtures can reduce the floor area dedicated to restrooms by a third when considering multi-user restrooms or by one-half if single-user restrooms were considered. The SSA indicates a facility of 60,000 net rentable sq. ft. has a construction cost of $45 to $65 per square foot, not including land costs. A single-user restroom will have a floor area of approximately 50 sq. ft. This can save $2,250 minimum per restroom, or add one to four additional revenue-generating storage units.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost impact would likely decrease due to two reasons:

1. Designers' fees may be reduced since the designers' time and efforts to obtain approvals for reduced occupant loads from jurisdictions would no longer be necessary.
2. Since occupant loads will be lower, the number of plumbing fixtures required may also be lower, thus decreasing the cost of construction by one or more plumbing fixtures.

E12-24

IBC: 1004.7; IFC: [BE] 1004.7

Proponents: David Renn, PE, SE, City and County of Denver, Colorado Chapter Code Development Committee (david.renn@denvergov.org)

2024 International Building Code

Revise as follows:

1004.7 Outdoor areas.
Yards, patios, ~~*occupiable roofs ,*~~ *courts* and similar outdoor areas that are not located on the *building* and are accessible to and usable by the *building* occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by *persons* in addition to the occupants of the *building*, and the path of egress travel from the outdoor areas passes through the *building*, *means of egress* requirements for the *building* shall be based on the sum of the *occupant loads* of the *building* plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual *dwelling units* of Group R-2.

2024 International Fire Code

Revise as follows:

[BE] 1004.7 Outdoor areas. *Yards*, patios, ~~*occupiable roofs ,*~~ *courts* and similar outdoor areas that are not located on the *building* and are accessible to and usable by the *building* occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by *persons* in addition to the occupants of the *building*, and the path of egress travel from the outdoor areas passes through the *building*, *means of egress* requirements for the *building* shall be based on the sum of the *occupant loads* of the *building* plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual *dwelling units* of Group R-2.

Reason: The section on outdoor areas was historically intended to be for areas that are not part of the building but are accessible and useable by the building occupants. Prior to the 2018 IBC, this section applied to “Yards, patios, courts and similar outdoor areas”, all of which are areas that are not part of the building. The section intends for these areas to have a means of egress and, if this means of egress goes through the building, the occupant load is added to the occupant loads of the building. The section also indicates that the occupant load of the outdoor area shall be assigned by the building official in accordance with anticipated use – this sentence is needed since the occupant load provisions in 1004 are for means of egress for a building or structure and don’t directly apply to outdoor areas that are not part of the building (per definition, “means of egress” is for a building or structure only).

In the 2018 IBC, occupied roofs (now occupiable roofs) were added to the scoping of this section with the good intention of clarifying that occupied roofs need to meet means of egress requirements. However, this change, along with recent changes in the code for occupiable roofs, results in the following issues:

1. Most significantly, by adding occupiable roofs the “similar outdoor areas” part of the scoping is expanded. Previously this would have been an area that is not part of the building to be similar to yards, patios or courts. Since occupiable roofs are part of the building, “similar outdoor areas” is expanded to include balconies of residential units (and other balconies). The result is that Exception 2 for outdoor areas associated with Group R-3 and individual dwelling units of Group R-2 exempts balconies (or occupiable roofs for these cases) from ALL means of egress requirements since this is a blanket exception for 1004.7, which requires a means of egress in the first sentence. Designers have used this exception to significantly add to the common path of travel from an R-2 dwelling unit since the

balcony would not have to be included, creating a non-conservative and potentially dangerous situation. Designers have also argued they can access an occupiable roof above an individual unit with a ladder, since the roof is exempt from means of egress requirements. Balcony doors would also have no size requirements due to this exception.

2. This section requires the occupant load of an occupiable roof to be assigned by the building official in accordance with the anticipated use. This is in direct conflict with IBC 1004.5 that has specific occupant loads based on the function of the space (Table 1004.5). Where an intended function is not listed in Table 1004.5, Section 1004.5 requires the building official to establish a function based on a listed function that most nearly resembles the intended function. The wording in 1004.7 conflicts with this since it requires the building official to assign an occupant load in all cases and gives no guidelines on how to assign this occupant load since it doesn't have to relate to functions listed in Table 1004.5.

3. It is not necessary for this section to indicate that occupiable roofs must be provided with a means of egress since IBC Section 1006 specifically addresses the number of exits for occupiable roofs. Also, the definition of "means of egress" includes egress from occupied portions of a building or structure, which includes an occupiable roof. Furthermore, the definition of "occupiable roof" indicates that it is an exterior space on a roof that is equipped with a means of egress system meeting the requirements of the code.

Since occupiable roofs are already covered in the means of egress requirements (Item 3 above), and to resolve the issues identified in Items 1 and 2 above, this proposal removes "occupiable roofs" from the outdoor areas section. Language is also added to clarify that this section is for outdoor areas that are not located on the building. This brings this section back to its original intent of regulating outdoor areas that are not part of the building.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies the intent of the code and resolves conflicts in the code, so there will be no cost impact.

E12-24

E13-24

IBC: 1004.7; IFC: [BE] 1004.7

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1004.7 Outdoor areas.
Yards, patios, *occupiable roofs* , *courts* and similar outdoor areas accessible to and usable by the *building* occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by *persons* in addition to the occupants of the *building*, and the path of egress travel from the outdoor areas passes through the *building*, *means of egress* requirements for the *building* shall be based on the sum of the *occupant loads* of the *building* plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service or maintenance of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual *dwelling units* of Group R-2.

2024 International Fire Code

Revise as follows:

[BE] 1004.7 Outdoor areas. *Yards*, patios, *occupiable roofs*, *courts* and similar outdoor areas accessible to and usable by the building occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *fire code official* in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, *means of egress* requirements for the building shall be based on the sum of the *occupant loads* of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service or maintenance of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual *dwelling units* of Group R-2.

Reason: Service could be understood to be limited to reading a gas meter. Maintenance could be replacing or repairing a piece of equipment. Both are limited personnel, so addition MOE is not warranted.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of current allowances for means of egress for outdoor spaces with limited occupants.

E14-24

IBC: 1004.8; IFC: [BE] 1004.8

Proponents: Jeanne Rice, NYS DOS, NYS DOS (jeanne.rice@dos.ny.gov); Chad Sievers, NYS, NYS DOS (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, NYS DOS, NYS DOS (kevin.duerr-clark@dos.ny.gov); China Clarke, New York State Dept of State, Manager Technical Support Unit (china.clarke@dos.ny.gov)

2024 International Building Code

Revise as follows:

1004.8 Concentrated business use areas.
The *occupant load* factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data entry and similar business use areas with a higher density of occupants than would normally be expected in a typical business occupancy environment. ~~Where *approved* by the *building official*, the~~ The *occupant load* for concentrated business use areas shall be the actual *occupant load* as *approved*, but not less than one occupant per 50 square feet (4.65 m^2) of gross occupiable floor space.

2024 International Fire Code

Revise as follows:

[BE] 1004.8 Concentrated business use areas. The *occupant load* factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data entry and similar business use areas with a higher density of occupants than would normally be expected in a typical business occupancy environment. ~~Where *approved* by the *building official*, the~~ The *occupant load* for concentrated business use areas shall be the actual *occupant load* as *approved*, but not less than one occupant per 50 square feet (4.65 m^2) of gross occupiable floor space.

Reason: Code officials have noted some confusion in applying the provisions of section 1004.8 regarding concentrated business live loads. As the section is currently worded, it is unclear if using the actual occupant load is optional, subject to the discretion of the building official. The proposed change restructures the last sentence to clarify that the use of a concentrated load is not optional, but that said concentrated load must be approved by the building official.

The definition of approved is "**[A] APPROVED.** Acceptable to the *building official*." so 'building official' is already include in the definition and is therefore redundant here.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposed change is merely editorial, changing how one sentence is phrased so as to provide additional clarity. Code provisions are unchanged.

E15-24

IBC: 1005.3, 1030.6; IFC: [BE] 1005.3, [BE] 1030.6

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1005.3 Required capacity based on occupant load.
The required capacity, in inches (mm), of the *means of egress* for any room, area, space or *story* shall be not less than that determined in accordance with Sections 1005.3.1 and 1005.3.2.
The capacity, in inches, of means of egress stairways between stories or mezzanines that also serve as a stepped aisle for tiered platforms used for seating shall be the aggregate of both of the following:

1. The occupant load served by the stairway from the story or mezzanine in accordance with Sections 1005.3.1.
2. The occupant load of the tiered platforms used for seating determined in accordance with Section 1030.6.

1030.6 Capacity of aisle for assembly.
The required capacity of aisles shall be not less than that determined in accordance with Section 1030.6.1 where *smoke-protected assembly seating* is not provided, Section 1030.6.2 where *smoke-protected assembly seating* is provided and Section 1030.6.3 where *open-air assembly seating* is provided.
The capacity, in inches, of means of egress stairways between stories or mezzanines that also serve as a stepped aisle for tiered platforms used for seating shall be the aggregate of both of the following:

1. The occupant load served by the stairway from the story or mezzanine in accordance with Sections 1005.3.1.
2. The occupant load of the tiered platforms used for seating determined in accordance with Section 1030.6.

2024 International Fire Code

Revise as follows:

[BE] 1005.3 Required capacity based on occupant load.
The required capacity, in inches (mm), of the *means of egress* for any room, area, space or story shall be not less than that determined in accordance with Sections 1005.3.1 and 1005.3.2.
The capacity, in inches, of means of egress stairways between stories or mezzanines that also serve as a stepped aisle for tiered platforms used for seating shall be the aggregate of both of the following:

1. The occupant load served by the stairway from the story or mezzanine in accordance with Sections 1005.3.1.
2. The occupant load of the tiered platforms used for seating determined in accordance with Section 1030.6.

[BE] 1030.6 Capacity of aisle for assembly.
The required capacity of *aisles* shall be not less than that determined in accordance with Section 1030.6.1 where *smoke-protected assembly seating* is not provided, with Section 1030.6.2 where *smoke-protected assembly seating* is provided, and with Section 1030.6.3 where open-air assembly seating is provided.
The capacity, in inches, of means of egress stairways between stories or mezzanines that also serve as a stepped aisle for tiered platforms used for seating shall be the aggregate of both of the following:

1. The occupant load served by the stairway from the story or mezzanine in accordance with Sections 1005.3.1.
2. The occupant load of the tiered platforms used for seating determined in accordance with Section 1030.6.

Reason: E106-18 added criteria to 1030.16 to address social stairways.

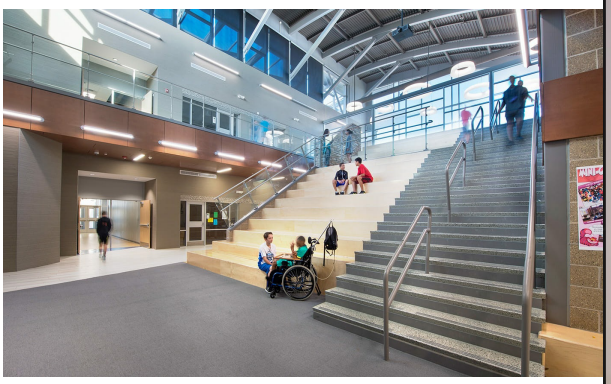
“Where stepped aisles have seating on one side and the aisle width is 74 inches (1880 mm) or greater, two handrails are required.

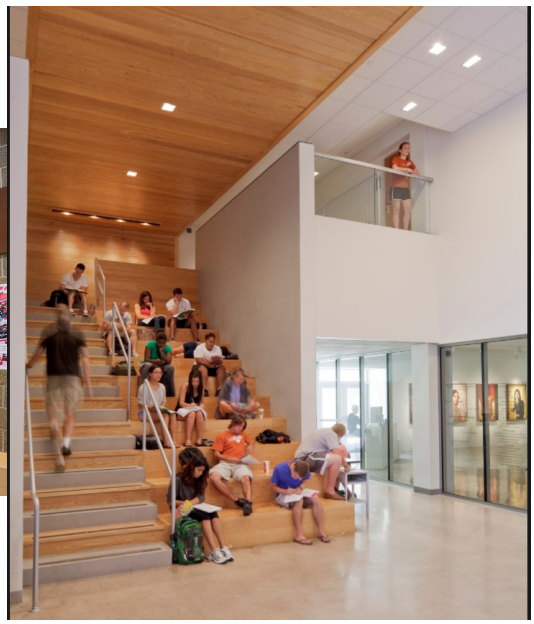
Where two handrails are required, one of the handrails shall be within 30 inches (762 mm) horizontally of the stepped aisle."

The question at this point is where there is this type assembly seating immediately adjacent to the egress from the upper floor – how should the capacity of the combined stairway/stepped aisle be calculated? We feel that the proposed language would clarify this issue.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.





Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements to calculate width for the stairway/stepped aisle. There are no change to construction requirements.

E15-24

E16-24

IBC: TABLE 1006.2.1, 1006.2.2.6; IFC: [BE] TABLE 1006.2.1, [BE] 1006.2.2.6

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

1006.2.1 Egress based on occupant load and common path of egress travel distance.
Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* or the *common path of egress* travel distance exceeds the values *listed* in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

Exceptions:

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads* .
2. *Care suites* in Group I-2 occupancies complying with Section 407.4.
3. Unoccupied mechanical rooms and *penthouses* are not required to comply with the common path of egress travel distance measurement.

Revise as follows:

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

		MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)				
		Without Automatic Sprinkler System (feet) NS		With Automatic Sprinkler System (feet)		
		Occupant Load				
OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	OL ≤ 30	OL > 30	S	S13R	S13D
A~~b~~, E, M	49	75	75	75~~a~~	NP	NP
B	49	100	75	100~~a~~	NP	NP
F	49	75	75	100~~a~~	NP	NP
H-1, H-2, H-3	3	NP	NP	25~~a~~~~b~~	NP	NP
H-4, H-5	10	NP	NP	75~~a~~~~b~~	NP	NP
I-1, I-2~~c~~~~d~~, I-4	10	NP	NP	75~~a~~	NP	NP
I-3	10	NP	NP	100~~a~~	NP	NP
R-1	10	NP	NP	75~~a~~	75	NP
R-2	20	NP	NP	125~~a~~	125	125
R-3~~b~~	20	NP	NP	125~~a~~~~, g~~	125	125
R-4~~b~~	20	NP	NP	125~~a~~~~, g~~	125	75
S~~d~~	29	100	75	100~~a~~	NP	NP
U	49	100	75	75~~a~~	NP	NP

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.2.8 and 903.3.1.3.

~~a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.~~

a~~b~~. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.

b~~e~~. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.

c~~d~~. For the travel distance limitations in Group I-2, see Section 407.4.

d~~e~~. The common path of egress travel distance shall only apply in a Group R-3 and Group R-4 occupancy located in a mixed occupancy building.

e~~f~~. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

~~g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.~~

Delete without substitution:

~~1006.2.2.6 Groups R-3 and R-4.~~
~~Where Group R-3 occupancies are permitted by Section 903.2.8 to be protected by an *automatic sprinkler system* installed in accordance with Section 903.3.1.3, the *exit access* travel distance for Group R-3 shall be not more than 125 feet (38 100 mm). Where Group R-4 occupancies are permitted by Section 903.2.8 to be protected by an *automatic sprinkler system* installed in accordance with Section 903.3.1.3, the *exit access* travel distance for Group R-4 shall be not more than 75 feet (22 860 mm).~~

2024 International Fire Code

[BE] 1006.2.1 Egress based on occupant load and common path of egress travel distance.
Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* or the *common path of egress travel* distance exceeds the values listed in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

Exceptions:

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*.
2. Care suites in Group I-2 occupancies complying with Section 407.4 of the International Building Code.
3. Unoccupied mechanical rooms and penthouses are not required to comply with the *common path of egress travel* distance measurement.

Revise as follows:

[BE] TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)				
		Without Automatic Sprinkler System (feet) NS		With Automatic Sprinkler System (feet)		
		Occupant Load				
		OL ≤ 30	OL > 30	S	S13R	S13D
A-~~1~~[b,e], E, M	49	75	75	75[a]	NP	NP
B	49	100	75	100[a]	NP	NP
F	49	75	75	100[a]	NP	NP
H-1, H-2, H-3	3	NP	NP	25[a,b]	NP	NP
H-4, H-5	10	NP	NP	75[a,b]	NP	NP
I-1, I-2[c,d], I-4	10	NP	NP	75[a]	NP	NP

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)				
		Without Automatic Sprinkler System (feet) NS		With Automatic Sprinkler System (feet)		
		Occupant Load				
		OL ≤ 30	OL > 30	S	S13R	S13D
I-3	10	NP	NP	100[a]	NP	NP
R-1	10	NP	NP	75[a]	75	NP
R-2	20	NP	NP	125[a]	125	125
R-3[de]	20	NP	NP	125[a, g]	125	125
R-4[de]	20	NP	NP	125[a, g]	125	75
S[ef]	29	100	75	100[a]	NP	NP
U	49	100	75	75[a]	NP	NP

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.2.8 and 903.3.1.3.

~~a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2~~

a~~b~~. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.

b~~e~~. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.

c~~d~~. For the travel distance limitations in Group I-2, see Section 407.4 of the International Building Code.

d~~e~~. The common path of egress travel distance shall apply only in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 congregate living facility.

e~~f~~. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

~~g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.~~

Delete without substitution:

~~[BE] 1006.2.2.6 Groups R-3 and R-4.~~

~~Where Group R-3 occupancies are permitted by Section 903.2.8 to be protected by an *automatic sprinkler system* installed in accordance with Section 903.3.1.3, the *exit access* travel distance for Group R-3 shall be not more than 125 feet (38 100 mm). Where Group R-4 occupancies are permitted by Section 903.2.8 to be protected by an *automatic sprinkler system* installed in accordance with Section 903.3.1.3, the *exit access* travel distance for Group R-4 shall be not more than 75 feet (22 860 mm).~~

Reason: The intent of this group of proposal is to make the tables in Chapter 8 and 10 consistent with the revisions to Table 504.3, 504.4, 506.2 – using S13, S13R, S13D and NP for sprinkler requirement. This would clarify what happens when an NFPA 13D sprinkler system is used. This is not intent to change current allowances; just to clarify what requirements are applicable for an NFPA13D system.

Discussion during the BCAC calls has indicated that it is needed to identifying specific code sections so that everyone has the same understanding.

Group R-4 requirements do not always have to be stated as Section 310.5 states “Group R-4 occupancies shall meet the requirements

for construction as defined for Group R-3, except as otherwise provided for in this code." However, since a lot of people miss that, we are including R-4 in the proposed applicable footnotes.

Townhouses are defined as attached dwelling units that extend from foundation to grade and are open on at least two sides. If a townhouse is 3 stories or less, it can choose to comply with the IBC or IRC (Section 101.2). The IRC Section P2904 is similar to an NFPA 13D system. If the IBC is used, townhouses subdivide by firewalls into 1 or 2 units per building is a Group R-3 (Section 310.4) and townhouses subdivided by fire partitions (Section 420.2) are a Group R-2 (Section 310.3). This is important to clarify because all townhouses can use a 13D sprinkler system: Section 903.2.8 references 903.3, and 903.1.3.3 specifically stating that "Automatic sprinkler systems installed in … and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D." To make this obvious in the tables, a reference to 903.2.8 and 903.1.3.3 are added in the footnote.

Specifics for this change –

- adds the S13, S13R, S13D and NS in the table titles and footnotes with the section references for sprinklers.
- columns are added for each of the three sprinkler systems.
- Footnote a with the sprinkler reference is redundant and deleted.
- The requirements in Section 1006.2.2.6 are moved into the table, so footnote g and Section 1006.2.2.6 are redundant and deleted.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements for Group R where an NFPA13D system is permitted. There are no changes to construction requirements.

E16-24

E17-24

IBC: 1006.2.1, TABLE 1006.2.1, 1006.2.2 (New), (New); IFC: [BE] 1006.2.1, [BE] TABLE 1006.2.1, 1006.2.2 (New), TABLE 1006.2.2 (New)

Proponents: Homer Maiel, PE, CBO, HM Associates, Inc., Representig self (hmaiel@gmail.com)

2024 International Building Code

Revise as follows:

1006.2.1 Egress based on occupant load ~~and common path of egress travel distance~~.
Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* ~~or the *common path of egress* travel distance~~ exceeds the values *listed* in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

Exceptions:

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*.
2. *Care suites* in Group I-2 occupancies complying with Section 407.4.
3. Unoccupied mechanical rooms and *penthouses* are not required to comply with the common path of egress travel distance measurement.

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	~~MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)~~		
		~~Without Automatic Sprinkler System (feet)~~		~~With Automatic Sprinkler System (feet)~~
		~~Occupant Load~~		
		~~OL ≤ 30~~	~~OL > 30~~	
A~~[a]~~, E, M	49	~~75~~	~~75~~	~~75[a]~~
B	49	~~100~~	~~75~~	~~100[a]~~
F	49	~~75~~	~~75~~	~~100[a]~~
H-1, H-2, H-3	3	~~NP~~	~~NP~~	~~25[b]~~
H-4, H-5	10	~~NP~~	~~NP~~	~~75[b]~~
I-1, I-2~~[d]~~, I-4	10	~~NP~~	~~NP~~	~~75[a]~~
I-3	10	~~NP~~	~~NP~~	~~100[a]~~
R-1	10	~~NP~~	~~NP~~	~~75[a]~~
R-2	20	~~NP~~	~~NP~~	~~125[a]~~
R-3~~[e]~~	20	~~NP~~	~~NP~~	~~125[a, g]~~
R-4~~[e]~~	20	~~NP~~	~~NP~~	~~125[a, g]~~
S~~[f]~~	29	~~100~~	~~75~~	~~100[a]~~
U	49	~~100~~	~~75~~	~~75[a]~~

~~For SI: 1 foot = 304.8 mm.~~

~~NP = Not Permitted.~~

~~a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.~~

~~b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.~~

~~e~~a. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.

~~d~~b. For the travel distance limitations in Group I-2, see Section 407.4.

~~c. The common path of egress travel distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.~~

~~f. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.~~

~~g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.~~

1006.2.1.1 Three or more exits or exit access doorways.
Three *exits* or *exit access doorways* shall be provided from any space with an *occupant load* of 501 to 1,000. Four *exits* or *exit access doorways* shall be provided from any space with an *occupant load* greater than 1,000.

Add new text as follows:

1006.2.2 Common path of egress travel distance. Where two or more exits or exit access doorways are required by Section 1006.2.1, common path of egress travel shall not exceed the values listed in Table 1006.2.2.

Revise as follows:

TABLE 1006.2.2 MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE

OCCUPANCY	Without Sprinkler System (feet)		With Sprinkler System (feet)
	Occupant Load		
	OL ≤ 30	OL > 30	
A[c], E, M	75	75	75[a]
B	100	75	100[a]
F	75	75	100[a]
H-1. H-2, H-3	NP	NP	25[b]
H-4, H-5	NP	NP	75[b]
I-1, I-2[d], I-4	NP	NP	75[a]
I-3	NP	NP	100[a]
R-1	NP	NP	75[a]
R-2	NP	NP	125[a]
R-3[e]	NP	NP	125[a,g]
R-4[e]	NP	NP	125[a,g]
S-[f]	100	75	100[a]
U	100	75	75[a]

NP = Not Permitted

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.

b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.

c. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.

d. For the travel distance limitations in Group I-2. see Section 407.4.

e. The common path of egress travel distance shall only apply in Group R-3 occupancy located in a mixed occupancy building.

f. The length of common path of egress travel distance in Group S-2 open parking garage shall be not more than 100 feet.

g. For the travel distance limitations in Group R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.

2024 International Fire Code

Revise as follows:

[BE] 1006.2.1 Egress based on occupant load ~~and common path of egress travel distance~~.

Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* ~~or the *common path of egress* travel distance~~ exceeds the values *listed* in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

Exceptions:

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*.
2. Care suites in Group I-2 occupancies complying with Section 407.4 of the International Building Code.
3. Unoccupied mechanical rooms and penthouses are not required to comply with the *common path of egress travel* distance measurement.

[BE] TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	~~MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)~~		
		~~Without Automatic Sprinkler System (feet)~~		
		~~Occupant Load~~		
		~~OL ≤ 30~~	~~OL > 30~~	~~With Automatic Sprinkler System (feet)~~
A~~[a]~~[e], E, M	49	~~75~~	~~75~~	~~75~~[a]
B	49	~~100~~	~~75~~	~~100~~[a]
F	49	~~75~~	~~75~~	~~100~~[a]
H-1, H-2, H-3	3	~~NP~~	~~NP~~	~~25~~[b]
H-4, H-5	10	~~NP~~	~~NP~~	~~75~~[b]
I-1, I-2[bd], I-4	10	~~NP~~	~~NP~~	~~75~~[a]
I-3	10	~~NP~~	~~NP~~	~~100~~[a]
R-1	10	~~NP~~	~~NP~~	~~75~~[a]
R-2	20	~~NP~~	~~NP~~	~~125~~[a]
R-3~~[c]~~	20	~~NP~~	~~NP~~	~~125~~[a, g]
R-4~~[c]~~	20	~~NP~~	~~NP~~	~~125~~[a, g]
S~~[f]~~	29	~~100~~	~~75~~	~~100~~[a]
U	49	~~100~~	~~75~~	~~75~~[a]

~~For SI: 1 foot = 304.8 mm.~~

~~NP = Not Permitted.~~

~~a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2~~

~~b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.~~

a~~e~~. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.

b~~d~~. For the travel distance limitations in Group I-2, see Section 407.4 of the International Building Code.

~~c. The common path of egress travel distance shall apply only in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 congregate living facility.~~

~~f. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.~~

~~g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.~~

[BE] 1006.2.1.1 Three or more exits or exit access doorways. Three *exits* or *exit access doorways* shall be provided from any space with an *occupant load* of 501 to 1,000. Four *exits* or *exit access doorways* shall be provided from any space with an *occupant load* greater than 1,000.

Add new text as follows:

1006.2.2 Common path of egress travel distance. Where two or more exits or exit access doorways are required by Section 1006.2.1, common path of egress travel shall not exceed the values listed in Table 1006.2.2.

TABLE 1006.2.2 MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE

OCCUPANCY	Without Sprinkler System (feet)		With Sprinkler System (feet)
	Occupant Load		
	OL ≤ 30	OL > 30	
A[c], E, M	75	75	75[a]
B	100	75	100[a]
F	75	75	100[a]
H-1. H-2, H-3	NP	NP	25[b]
H-4, H-5	NP	NP	75[b]
I-1, I-2[d], I-4	NP	NP	75[a]
I-3	NP	NP	100[a]
R-1	NP	NP	75[a]
R-2	NP	NP	125[a]
R-3[e]	NP	NP	125 [a,g]
R-4[e]	NP	NP	125 [a,g]
S[f]	100	75	100[a]
U	100	75	75[a]

For SI: 1 foot=304.8

NP = Not Permitted

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.

b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.

c. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.

d. For the travel distance limitations in Group I-2. see Section 407.4 of the International Building Code.

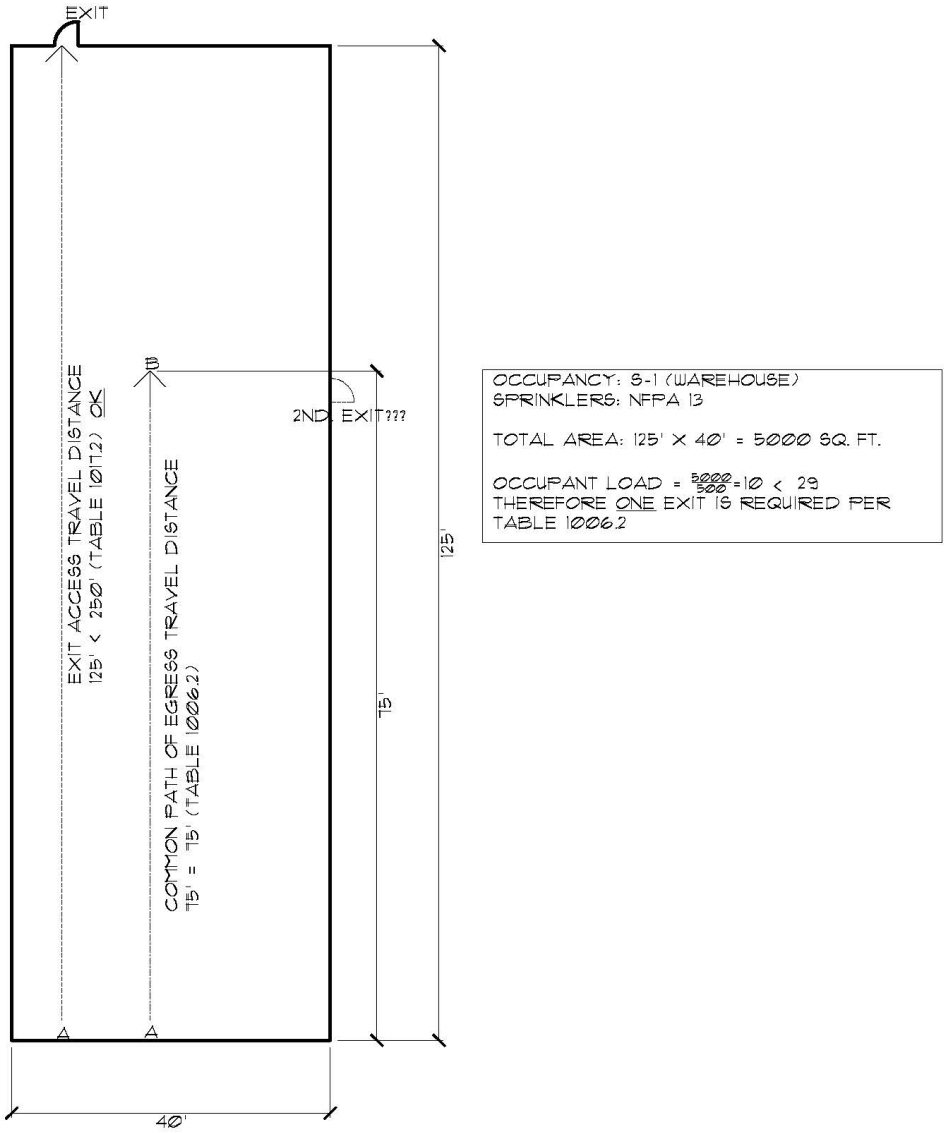
e. The common path of egress travel distance shall only apply in Group R-3 occupancy located in a mixed occupancy building.

f. The length of common path of egress travel distance in Group S-2 open parking garage shall be not more than 100 feet.

g. For the travel distance limitations in Group R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.

Reason: Ever since the maximum common path of egress travel distance (CPETD) was merged with maximum occupant load (MOL), confusion was created. If one applies the exisying Table 1006.2.1, he/she will see that CPETD will always trump MOL. The intend of CPET has always been that it should apply to spaces that ALREADY require 2 or more exits. The current Table will, for most parts, trigger the second exit no matter how low the MOL is. In fact, even IBC Commentary to Section 1006.2.1 states" the distance limitation are applicable to all path of travel that lead out of a space or building where 2 exits are required". One should always calculate MOL and check Exit Access Travel Distance (EATD) (Table 1017.2). If any of these two trigger the second exit, THEN CPETD should come into play. The CPETD should not trigger the second exit. See the example provide herein.In this example the space is an S-1 occupancy (wearhouse). It is fully sprinklered and total area is 5000 sq. feet. The depth of this space is 125'. The MOL is only 10. When one travels from point A toward the exit, he/she will have to travel 125' to reach the exit. Since this is less than 250' (EATD) then second exit is not required. If you check the MOL (10 in this case) you will see that it does not exceed 29 (Table 1006.2.1). So again second exit is not

require. However, traveling from point A toward the exit, 75' (CPETD) feet later you will reach point B which is way short of the exit. Now I have to create the second exit only because of CPETD!!!! By breaking up this current table into two and creating new Table for CPETD, this problem will be solved.



Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is just splitting a table and would have no change to cost.

E17-24

E18-24

IBC: 1006.2.2.5; IFC: [BE] 1006.2.2.5

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1006.2.2.5 Vehicular ramps.
Vehicular ramps intended only for vehicle traffic shall not be considered as an *exit access ramp* ~~unless pedestrian *facilities* are~~ except where a walkway used exclusively as a pedestrian trafficway is provided.

2024 International Fire Code

Revise as follows:

[BE] 1006.2.2.5 Vehicular ramps. Vehicular ramps intended only for vehicle traffic shall not be considered as an *exit access ramp* ~~unless pedestrian *facilities* are~~ except where a walkway used exclusively as a pedestrian trafficway is provided.

Reason: Are vehicular ramps the driveways and crossovers for cars only with no parking on either side; or are they wherever a car drives in a parking garage. Pedestrian walkways are used for bridges between buildings in Chapter 31, so we did not want to use the defined term, but the words in the defined term would add clarity to this requirement. The term “pedestrian facilities” is not defined and is not clear.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements for pedestrians on vehicular ramps. There are no changes to construction requirements.

E19-24

IBC: 1006.2.2, 1006.2.2.7 (New); IFC: [BE] 1006.2.2, 1006.2.2.7 (New)

Proponents: Adam Henson, U.S. Chemical Safety and Hazard Investigation Board (adam.henson@csb.gov)

2024 International Building Code

Revise as follows:

1006.2.2 Egress based on use.
The numbers, configuration and types of components of *exits* or access to *exits* shall be provided in the uses described in Sections 1006.2.2.1 through ~~1006.2.2.6~~ 1006.2.2.7.

Add new text as follows:

1006.2.2.7 Equipment Platforms. Equipment platforms in Group H-1, H-2, H-3 and H-4 occupancies, and equipment platforms located outside servicing industrial processes, storing or using hazardous materials in excess of the maximum allowable quantity per control area specified in Tables 5003.1.1 (3) or 5003.1.1(4) of the *International Fire Code*, shall have at least two exits or exit access doorways.

Exception: Equipment platforms with less than 4 occupants and with an exit access travel distance less than 200 feet (61 m) shall be permitted to have a single exit or exit access doorway.

2024 International Fire Code

Revise as follows:

[BE] 1006.2.2 Egress based on use.
The numbers, configurations, and types of components of exits or access to exits shall be provided in the uses described in Sections 1006.2.2.1 through ~~1006.2.2.6~~ 1006.2.2.7

Add new text as follows:

1006.2.2.7 Equipment Platforms. Equipment platforms in Group H-1, H-2, H-3 and H-4 occupancies, and equipment platforms located outside servicing industrial processes, storing or using hazardous materials in excess of the maximum allowable quantity per control area specified in Tables 5003.1.1 (3) or 5003.1.1(4), shall have at least two exits or exit access doorways.

Exception: Equipment platforms with less than 4 occupants and with an exit access travel distance less than 200 feet (61 m) shall be permitted to have a single exit or exit access doorway.

Reason: On November 13, 2020, hydrogen chloride gas, which is corrosive and toxic, was released from an industrial chemical process at the Wacker Polysilicon North America (Wacker) facility in Charleston, TN. The release occurred when excessive torque was applied to the bolts of the graphite heat exchanger in the unit. The release occurred on the fifth floor of an equipment platform located outdoors. At the time of the release, there were seven workers on the fifth floor of the equipment platform some in chemical resistant suits and others not.

Four of the workers remained in place during the release. Three of the workers who were not wearing chemical resistant suits attempted to escape by climbing over the edge of the equipment platform approximately 70 feet above the ground and climbing down piping on the side of the structure. During the climb down all three workers fell fatally injuring one and seriously injuring the other two. One of the employees who remained in place suffered chemical burns when their chemical resistant suit ripped. In addition to the human toll of this incident damages of $214,000 were reported by the facility.

Access to/egress from the fourth and fifth floors of the equipment platform was provided by a single staircase. The release cut off the employees from the staircase. In the months immediately preceding the incident Wacker identified this area having a single means of

egress as a hazard during a process hazard analysis. At the time of the incident, Wacker had not followed up on this PHA recommendation. In response to concerns brought by employees Wacker cited IBC/IFC as justification for the arrangement of the platform's means of egress.

During its investigation the CSB concluded that had an additional means of egress been installed that the workers affected by the release would not have had to climb over the edge of the platform to escape the release and the fatality and serious injuries associated with the falls could have been prevented. The CSB also concludes that current egress requirements, including those found in the IBC/IFC, are insufficient for equipment platforms used for accessing equipment containing hazardous materials.

As part of its investigation into this incident, the CSB reviewed the requirements of the International Building Code (IBC) and the International Fire Code (IFC) and determined that there are no requirements for means of egress from equipment platforms even those serving equipment with hazardous materials under any circumstances.

As the result of the investigation, the CSB issued the following recommendation to the International Code Council:

CSB Recommendation No. 2021-01-I-TN-R9

Amend the International Building Code (IBC) to address conditions that may require multiple means of egress from elevated equipment platforms used for accessing equipment containing materials that pose physical and health hazards, such as the one used at Wacker in this incident. Specify the minimum number of egress points to increase the likelihood of worker escape in the event of a hazardous material release.

The language proposed is intended to satisfactorily implement this recommendation.

Bibliography: U.S. Chemical Safety and Hazard Investigation Board (CSB), "Equipment Fracture and Fatal Hydrogen Chloride Release at Wacker Polysilicon North America," 15 June 2023. [Online]. Available: https://www.csb.gov/file.aspx?DocumentId=6226. [Accessed 30 November 2023].

Cost Impact: Increase

Estimated Immediate Cost Impact:

Between $17,000 and $362,000

Estimated Immediate Cost Impact Justification (methodology and variables):

Recent projects to increase the number of means of egress on elevated equipment platforms were completed, or are underway, at a chemical plant in Tennessee. Addressing the following scenarios resulted in the following final and estimated costs.

Scenario 1: A piece of equipment is kept on the third floor, near the edge of the platform.

Solution:

Ladders were added on each side of the building from the third floor to an adjacent building. Modifications were also made to the rood access door.

Final Cost: $17,000

Scenario 2: The existing finger rack dead-ends.

Solution:

A ladder and platform were installed to connect the finger rack to the adjacent pipe rack.

Final Cost: $24,000

Scenario 3: The existing finger rack dead-end on either side of a process vessel.

Solution:

Ladders and platforms were added on each of the finger racks.

Final Cost: $147,000

Scenario 4: Material from a third-floor skid is piped through upper floors and is located in various vessels on the upper floors. Maintenance and operations personnel frequently access these areas and there is a single means of egress.

Solution:

Ladders are being added from the 6th to 5th floors, 5th to 4th floors, and 4th floor to the roof of the adjacent building.

Estimated Cost: $175,000

Scenario 5: Chemical process equipment is located on the fifth floor of an elevated equipment platform with a single means of egress.

Solution:

A stair tower serving each floor of the elevated equipment platform was constructed.

Final Cost: $362,000

Cost Source:

This information was provided by the chemical company previously mentioned based on their efforts to install secondary means of egress on the existing elevated equipment platforms located throughout their facility. The cost of these items for new construction will likely be less expensive if secondary means of egress for these structures is considered in their original design.

E20-24

IBC: 1006.3.2, 1019.1; IFC: [BE] 1006.3.2, [BE] 1019.1

Proponents: Steve Thomas, Shums Coda Associates, Colorado Chapter Code Development Committee (sthomas@coloradocode.net)

2024 International Building Code

Revise as follows:

~~1006.3.2~~ 1017.3.2 Path of ~~egress~~ exit access travel.

The path of ~~egress~~ exit access travel to an *exit* shall not pass through more than one adjacent *story*.

Exception: The path of ~~egress~~ exit access travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four *stories* or less serving and contained within an individual *dwelling unit*, *sleeping unit* or *live/work unit*.
2. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 *facility*.
3. *Exit access stairways* and *ramps* within an *atrium* complying with Section 404.
4. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
5. *Exit access stairways* and *ramps* serving *smoke-protected* assembly seating and *open-air assembly seating* complying with the exit access travel distance requirements of Section 1030.7.
6. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports *facilities*.
7. Exterior *exit access stairways* and *ramps* between *occupiable roofs* .

1019.1 General. *Exit access stairways* and *ramps* serving as an *exit access* component in a *means of egress* system shall comply with the requirements of this section. The number of *stories* connected by *exit access stairways* and *ramps* shall include *basements*, but not *mezzanines*. Exit access travel distance shall be measured along exit access stairways and ramps in accordance with Section 1017.3.

2024 International Fire Code

Revise as follows:

[BE] ~~1006.3.2~~ 1017.3.2 Path of ~~egress~~ exit access travel.

The path of ~~egress~~ exit access travel to an *exit* shall not pass through more than one adjacent *story*.

Exception: The path of ~~egress~~ exit access travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or fewer serving and contained within an individual *dwelling unit* or *sleeping unit* or live/work unit.
2. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. *Exit access stairways* and *ramps* within an atrium complying with Section 404 of the *International Building Code*.
4. *Exit access stairways* and *ramps* in open parking garages that serve only the parking garage.
5. *Exit access stairways* and *ramps* serving smoke-protected assembly seating and open-air assembly seating complying with the *exit access* travel distance requirements of Section 1030.7.
6. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
7. Exterior *exit access stairways* and *ramps* between *occupiable roofs*.

[BE] 1019.1 General. *Exit access stairways* and *ramps* serving as an *exit access* component in a *means of egress* system shall comply with the requirements of this section. The number of stories connected by *exit access stairways* and *ramps* shall include *basements*, but not *mezzanines.* Exit access travel distance shall be measured along exit access stairways and ramps in accordance with Section 1017.3.

Reason: There seems to be some confusion about the path of travel to an exit. The first part of the proposal is to relocate Section 1006.3.2 to Section 1017.3.2. Section 1006.3 regulates the number of exits from stories or occupiable roofs. The language regarding the path of travel has nothing to do with the number of exits that are required. We believe that a better location is in the exit access travel distance since that section regulates the path of travel.

The second part is adding a cross reference in Section 1019 regarding exit access stairways to refer to the measurement of travel distance in Section 1017.3. There appears to be some confusion about the maximum number of stories that you can pass before you get to an exit. A cross reference will help in clarifying the requirements.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It is just a clarification of the requirements and relocation of language.

E20-24

E21-24

IBC: 1006.3.4; IFC: [BE] 1006.3.4

Proponents: David Renn, PE, SE, City and County of Denver, Colorado Chapter Code Development Committee (david.renn@denvergov.org)

2024 International Building Code

Revise as follows:

1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any *story* or *occupiable roof* where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 and located at a *level of exit discharge*, with *exits* that discharge directly to the exterior ~~at the *level of exit discharge*~~, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

2024 International Fire Code

Revise as follows:

[BE] 1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any story or *occupiable roof*, where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and *exit access* travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 and located at a *level of exit discharge*, with *exits* that discharge directly to the exterior ~~at the *level of exit discharge*~~, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one means of egress.
   5.2. Either the *exit* from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit* access outside the *dwelling unit*'s entrance door provides access to not less than two *approved* independent *exits*.

Reason: Item 2 for a single exit story is intended to be for rooms, areas or spaces that comply with 1006.2.1 as a single exit space, are located on the level of exit discharge, and have exits that discharge directly to the exterior. The commentary discusses how vertical travel takes longer than horizontal travel and indicates that if a space can exit directly to the exterior, rather than egress into an interior corridor or exit stairway, a higher level of safety is provided. A common use of this item is for a single-story strip mall where a tenant space

complies as a single exit space and has an exit door directly to the exterior.

The current wording for Item 2 does not meet the intent of the item as indicated above since the level of exit discharge requirement is tied to the discharge of the exit instead of the location of the room, area or space. For example, an interior exit stairway is an "exit" by definition and, if the discharge from the interior exit stairway is directly to the exterior, any single exit space that egresses through this stairway would not have to have access to a second exit, regardless of what story the space is on. It is clearly not the intent of the code that a single exit room, area or space on any story or occupiable roof of the building could have access to a single exit as this would directly contradict Tables 1006.3.4(1) and 1006.3.4(2) that have limits on which stories or occupiable roofs can have a single exit. I have reviewed many projects where the architect has tried to use this section to provide a single exit from an occupiable roof above a 3, 4 or 5-story building. I have also seen projects where the architect tried to use this section to provide a single exit for a second-story B occupancy with up to 49 occupants, as allowed by Table 1006.2.1 for a single exit space, which conflicts with Table 1006.3.4(2) that would allow a maximum of 29 occupants instead.

To fix the issue described above, this proposal revises the wording to tie level of exit discharge requirement to the location the room, rather than the location of the discharge from the exit. This change aligns the wording in the code with the intent of the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal simply revises wording of the code to align with the intent of the code. This item is currently being enforced as written in this proposal, so there is no cost impact.

E21-24

E22-24

IBC: TABLE 1006.3.4(1), TABLE 1006.3.4(2); IFC: [BE] TABLE 1006.3.4(1), [BE] TABLE 1006.3.4(2)

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any *story* or *occupiable roof* where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

Revise as follows:

TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, ~~or~~ 903.3.1.2 or 903.3.1.3, and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B[b], E, F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, ~~or~~ 903.3.1.2 or 903.3.1.3, and provided with emergency escape and rescue openings in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).

d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

2024 International Fire Code

[BE] 1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any story or *occupiable roof*, where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and *exit access* travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one means of egress.
   5.2. Either the *exit* from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit* access outside the *dwelling unit*'s entrance door provides access to not less than two *approved* independent *exits*.

Revise as follows:

[BE] TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, or 903.3.1.2 or 903.3.1.3 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

[BE] TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B[b], E, F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, ~~or~~ 903.3.1.2 or 903.3.1.3 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).

d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

Reason: A townhouse can be a Group R-2 and be permitted to use an NFPA13D sprinkler system. Footnote a of Table 1006.3.4(1) and 1006.3.4(2) should include a requirement for townhouses with a single exit to have emergency escape and rescue openings consistent with Group R-2 with an NFPA 13 or NFPA 13R systems.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements for Group R where an NFPA13D system is permitted. There are no changes to construction requirements.

E22-24

E23-24

IBC: TABLE 1006.3.4(1), TABLE 1006.3.4(2), 1006.3.4.1, 1031.2; IFC: [BE] TABLE 1006.3.4(1), [BE] TABLE 1006.3.4(2), [BE] 1006.3.4.1, [BE] 1031.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any *story* or *occupiable roof* where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

Revise as follows:

TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES a,b

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM NUMBER ~~OF DWELLING UNITS~~	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2~~a, b, c~~ consisting of dwelling units	4 dwelling units	125 feet
	R-2 consisting of sleeping units	20 occupants	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

~~b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).~~

~~c.~~b. This table is for occupiable roofs accessed through and serving individual dwelling units or sleeping units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual dwelling units or sleeping units, use Table 1006.3.4(2).

TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B~~ab~~, E, F~~ab~~, M, U	49	75
	H-2, H-3	3	25

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
	H-4, H-5, I, R-~~1, R-2~~[a, e]	10	75
	S[a, b, d]	29	75
Second story above grade plane	B, F, M, S[bd]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

~~a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.~~

~~b.~~a. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

~~c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).~~

~~d.~~b. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

1006.3.4.1 Mixed occupancies.

Where one *exit*, or *exit access stairway* or *ramp*providing access to exits at other *stories*, is permitted to serve individual *stories*, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each *story* of a mixed occupancy *building*, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(1) for Group R-2 sleeping units or Table 1006.3.4(2) for each occupancy does not exceed one. Where Group R-2 *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by ~~Tables~~ Table 1006.3.4(1) ~~and 1006.3.4(2)~~.
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way, or to an egress balcony that leads to a public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.

5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

2024 International Fire Code

[BE] 1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any story or *occupiable roof*, where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and *exit access* travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one means of egress.
   5.2. Either the *exit* from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit* access outside the *dwelling unit*'s entrance door provides access to not less than two *approved* independent *exits*.

Revise as follows:

[BE] TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES **a,b**

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM NUMBER ~~OF DWELLING UNITS~~	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2~~a, b, c~~ consisting of dwellint units	4 dwelling units	125 feet
	R-2 consisting of sleeping units	20 occupants	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

~~b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).~~

~~c.~~b. This table is for occupiable roofs accessed through and serving individual dwelling units or sleeping units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual dwelling or sleeping units, use Table 1006.3.4(2).

[BE] TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B~~[a,b]~~, E, F~~a~~, M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, ~~R-1, R-2[a, c]~~	10	75
	S~~[a, b, d]~~	29	75
Second story above grade plane	B, F, M, S~~[b,d]~~	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

~~a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.~~

~~b.~~a. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

~~c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).~~

~~d.~~b. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

[BE] 1006.3.4.1 Mixed occupancies.

Where one *exit*, or *exit access stairway* or *ramp* providing access to *exits* at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single *exit* shall be such that the sum of the ratios of the calculated number of occupants ~~of the~~ indicated in Table 1006.3.4(1) for Group R-2 sleeping units or Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of Group R-2 *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

[BE] 1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or access to only one *exit* as permitted by ~~Tables~~ Table 1006.3.4(1) ~~and 1006.3.4(2)~~.
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way* , or to an egress balcony that leads to a *public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.

2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

Reason: The purpose of this code change is to coordinate and consolidate requirements for R-2 units in Tables 1006.2.1 (single exit space), 1006.3.4(1) and 1006.3.4(2) (singe exit buildings).

Proposal E17-15 increased the maximum occupant load for R-2 Occupancies from 10 to 20 occupants for single exit spaces stating that it's appropriate since Group R-2 occupancies require sprinkler protection per Section 903.3.1.1 or 903.3.1.2. and that the exit access travel distance is 125' in both Table 1006.2.1 and 1006.3.4(1). There is no logic for a unit on the 1st floor of single exit building to have a lower occupant load or a shorter travel distance. In addition, if 4 single exit dwelling units are permitted on the 2nd and 3rd floor of a Group R-2 building, why is a single exit dwelling not permitted at the 2nd floor of a mixed-use building? Please note that emergency escape and rescue openings would be required in the single exit building.The change to Sections 1006.3.4.1 and 1031.2 are editorial to recognize that R-2 is only in one table.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) .

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0 - This will eliminate the need for a 2nd exterior door, and will allow for more efficient floor plan design. The options in floor plans is so wide ranging, it is not possible to determine costs.

Estimated Immediate Cost Impact Justification (methodology and variables):

This will only affect dwelling units on the basement, 1st or 2nd floor of a mixed-use building. This will most likely be no change in units less than 2,000 sq. ft. This will allow for a single exit in some apartments between 2,000 and 4,000 sq. ft., provided they can meet the exit access travel distance and provide EEROs.

E23-24

E24-24

IBC: 1006.3.4, 1006.3.5 (New), 1006.3.5.1 (New), 1006.3.5.2 (New), 1006.3.5.3 (New), 1006.3.5.4 (New), 1006.3.5.5 (New), 1006.3.5.6 (New), 1023.12, 1031.2; IFC: [BE] 1006.3.4, 1006.3.5 (New), 1006.3.5.1 (New), 1006.3.5.2 (New), 1006.3.5.3 (New), 1006.3.5.4 (New), 1006.3.5.5 (New), 1006.3.5.6 (New), [BE] 1023.12, [BE] 1031.2

Proponents: Stephen Smith, Center for Building in North America, Center for Building in North America (stephen@centerforbuilding.org); Scott Brody, Self (sbrody96@gmail.com); Trevor Acorn, PE SE, Myself (tjacorn@gmail.com)

2024 International Building Code

Revise as follows:

1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any *story* or *occupiable roof* where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).

2. Group R-2 occupancies complying with Section 1006.3.5.

~~2~~3. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.

~~3~~4. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.

~~4~~5. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.

~~5~~6. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:

~~5.1~~ 6.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.

~~5.2~~ 6.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B[b], E, F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).

d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

1006.3.4.1 Mixed occupancies.
Where one *exit*, or *exit access stairway* or *ramp*providing access to exits at other *stories*, is permitted to serve individual *stories*, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads*from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each *story* of a mixed occupancy *building*, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

Add new text as follows:

1006.3.5 Group R-2 occupancies. In Group R-2 occupancies, a single exit shall be permitted from any story or occupiable roof where the number of dwelling units served per exit at each story comply with one of the following:

1. The basement and first through sixth story above grade plane with a maximum of 4 dwelling units served per exit on each story.
2. The basement and first through third story above grade plane with a maximum of 6 dwelling units served per exit on each story.

Such building shall comply with Sections 1006.3.5.1 through 1006.3.5.6.

1006.3.5.1 Construction type. The building is Type IA, IB, IIA, or IV construction.

1006.3.5.2 Corridors. Dwelling units that do not open directly into an exterior exit stairway shall exit directly to a corridor complying with Section 1020.

1006.3.5.3 Travel distance. Maximum exit access travel distance shall be not more than 125 feet (38.1 m). Travel distance from the exit access door of the unit to the exit door for the stairway shall be not more than 25 feet (7.62 m).

1006.3.5.4 Exit stairways. Means of egress shall be provided from each story above the level of exit discharge by an interior exit stairway or exterior exit stairway. Exit stairways shall be protected with 2-hour fire barriers in accordance with Section 707 or a 2-hour horizontal assemblies in accordance with Section 711. An interior exit stairway shall be a smokeproof enclosure in accordance with with

Section 909.20.

1006.3.5.5 Emergency escape and rescue openings. Emergency escape and rescue openings shall be provided in accordance with Section 1031.

1006.3.5.6 Mixed occupancies. Mixed occupancies shall be permitted at and below the level of exit discharge. Other occupancies shall not have direct access to the Group R-2 occupancy portion of the building or to the exit stairway serving the Group R-2 occupancy.

Exception: Parking garages and occupied roofs that serve the Group R-2 occupancy shall be permitted to have direct access to the exit stairway.

Revise as follows:

1023.12 Smokeproof enclosures.
Where required by Section 403.5.4, 405.7.2, ~~or~~ 412.2.2.1 or 1006.3.5.4, interior exit *stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

1031.2 Where required.
In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2) and Section 1006.3.5.5.
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way, or to an egress balcony that leads to a public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

2024 International Fire Code

Revise as follows:

[BE] 1006.3.4 Single exits.
A single *exit* or access to a single *exit* shall be permitted from any story or *occupiable roof*, where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).

2. Group R-2 occupancies complying with Section 1006.3.5.

~~2~~3. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.

~~3~~4. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.

~~4~~5. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.

~~5~~6. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:

~~5.1~~ 6.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.

~~5.2~~ 6.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

[BE] TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

[BE] TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B[b], E, F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).

d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

[BE] 1006.3.4.1 Mixed occupancies.
Where one *exit*, or *exit access stairway* or *ramp* providing access to *exits* at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single *exit* shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

Add new text as follows:

1006.3.5 Group R-2 occupancies. In Group R-2 occupancies, a single exit shall be permitted from any story or occupiable roof where the number of dwelling units served per exit at each story comply with one of the following:

1. The basement and first through sixth story above grade plane with a maximum of 4 dwelling units served per exit on each story.
2. The basement and first through third story above grade plane with a maximum of 6 dwelling units served per exit on each story.

Such building shall comply with Sections 1006.3.5.1 through 1006.3.5.7.

1006.3.5.1 Construction type.
The building is Type IA, IB, IIA, or IV construction.

1006.3.5.2 Corridors. Dwelling units that do not open directly into an exterior exit stairway shall exit directly to a corridor complying with Section 1020.

1006.3.5.3 Travel distance. Maximum exit access travel distance shall be not more than 125 feet (38.1 m). Travel distance from the exit access door of the unit to the exit door for the stairway shall be not more than 25 feet (7.62 m).

1006.3.5.4 Exit stairways. Means of egress shall be provided from each story above the level of exit discharge by an interior exit stairway or exterior exit stairway. Exit stairways shall be protected with 2-hour fire barriers in accordance with Section 707 or a 2-hour horizontal assemblies in accordance with Section 711. An interior exit stairway shall be a smokeproof enclosure in accordance with with Section 909.20.

1006.3.5.5 Emergency escape and rescue openings. Emergency escape and rescue openings shall be provided in accordance with Section 1031.

1006.3.5.6 Mixed occupancies. Mixed occupancies shall be permitted in the building provided there are no exit access doors into the dwelling units or dwelling unit corridors directly from the other occupancies. Other occupancies shall not communicate with the Group R-2 occupancy portion of the building or with a single-exit stairway.

Exception: Parking garages and occupied roofs that serve the Group R-2 occupancy shall be permitted to communicate with the exit

stairway.

Revise as follows:

[BE] 1023.12 Smokeproof enclosures.
Where required by Section 403.5.4, 405.7.2, ~~or~~ 412.2.2.1 or 1006.3.5.4, interior exit *stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

[BE] 1031.2 Where required.
In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2) and Section 1006.3.5.5.
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way* , or to an egress balcony that leads to a *public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

Attached Files

- **Single-stair proposal attachment.pdf**
  https://www.cdpaccess.com/proposal/10412/30836/files/download/4800/

Reason: Please refer to our attachment for an in-depth discussion of life safety and other issues.

The 2024 International Building Code allows buildings up to three stories of R-2 occupancy to have up to four dwelling units at each story served by a single exit. Our proposal acknowledges the rising demand for infill multifamily development and a growing movement across the United States to modify local building codes for this purpose. We recommend enabling a single exit to serve up to six stories of R-2 occupancy above the grade plane, or up to six units per floor in cases of at most three stories.

In return for the increased height or dwelling unit allowance, buildings would adhere to more stringent conditions than a traditional building. The building would be of Type IA, IB, IIA, or IV 1-hour fire resistant construction, dwelling units could not directly access the exit, active or passive smoke control systems would be required in the single exit, and there would be strict limits on travel distances and the

number of dwelling units per floor. The whole suite of ordinary fire safety measures contained in the IBC – access to the building by fire apparatus, fire sprinklers, etc. – would also still apply.

Our language is adapted from codes in Seattle, Honolulu, New York City, and Western European countries, collectively forming the most rigorous set of conditions for six-story buildings in the developed world. The limitations and requirements in our proposal match or exceed those in cities, suburbs, and rural areas around the developed world, where fire death rates are at or below the United States median. Within the U.S., Seattle, Honolulu, and New York City have allowed buildings with generally fewer restrictions, to no ill effect or local controversy, and no major fires that we are aware of.

Our proposal is intentionally cautious and may be subject to adjustment in future code cycles based on additional research and experience, expanding possibilities for such construction.

Bibliography: See attached.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

We believe the cost of constructing multifamily buildings on small lots will decrease by roughly 7 percent, in line with the reduction in circulation area required.

Estimated Immediate Cost Impact Justification (methodology and variables):

See attachment for details.

E24-24

E25-24

IBC: 1006.3.4, 1006.3.5 (New), 1006.3.5.1 (New), 1006.3.5.2 (New), 1006.3.5.3 (New), 1006.5.3.4 (New), 1006.3.5.5 (New), 1006.3.5.6 (New), 1006.3.5.7 (New), 1023.12, 1031.2; IFC: [BE] 1006.3.4, 1006.3.5 (New), 1006.3.5.1 (New), 1006.3.5.2 (New), 1006.3.5.3 (New), 1006.5.3.4 (New), 1006.3.5.5 (New), 1006.3.5.6 (New), 1006.3.5.7 (New), [BE] 1023.12, [BE] 1031.2

Proponents: Scott Brody, Self (sbrody96@gmail.com)

2024 International Building Code

Revise as follows:

1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any *story* or *occupiable roof* where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Group R-1 and R-2 occupancies complying with Section 1006.3.5.
3. ~~2~~Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
4. ~~3~~Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
5. ~~4~~Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
6. ~~5~~Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   - ~~5.1~~ 6.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   - ~~5.2~~ 6.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story	A, B[b], E, F[b], M, U	49	75

above grade plane STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).

d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

1006.3.4.1 Mixed occupancies.
Where one *exit*, or *exit access stairway* or *ramp* providing access to exits at other *stories*, is permitted to serve individual *stories* , mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each *story* of a mixed occupancy *building*, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

Add new text as follows:

1006.3.5 Group R-1 and R-2 occupancies. In Group R-1 and R-2 occupancies, a single exit shall be permitted from any story or occupiable roof where the number of dwelling units served per exit at each story comply with one of the following:

1. The basement and first through sixth story above grade plane with a maximum of 4 dwelling units or sleeping units per story.
2. The basement and first through third story above grade plane with a maximum of 6 dwelling units or sleeping units per story.

Such building shall comply with Sections 1006.3.5.1 through 1006.3.5.7.

1006.3.5.1 Construction type. The building is Type IA, IB, IIA, or IV construction.

1006.3.5.2 Automatic sprinkler system. An automatic sprinkler system shall be installed throughout in accordance with Section 903.3.1.1.

1006.3.5.3 Corridors. Dwelling units or sleeping units that do not open directly into an exterior exit stairway shall exit directly to a corridor complying with Section 1020.

1006.5.3.4 Travel distance. For Group R-1, the maximum exit access travel distance shall be not more than 75 feet (22.9 m). For Group R-2, the maximum exit access travel distance shall be not more than 125 feet (38.1 m). Travel distance from the exit access door of the unit to the exit door for the stairway shall be not more than 25 feet (7.62 m).

1006.3.5.5 Exit stairways. Means of egress shall be provided from each story above the level of exit discharge by an interior exit stairway or exterior exit stairway. Exit stairways shall be protected with 2-hour fire barriers in accordance with Section 707 or a 2-hour horizontal assemblies in accordance with Section 711. An interior exit stairway shall be a smokeproof enclosure in accordance with with Section 909.20.

1006.3.5.6 Emergency escape and rescue openings. Emergency escape and rescue openings shall be provided in accordance with Section 1031.

1006.3.5.7 Mixed occupancies. Mixed occupancies shall be permitted at and below the level of exit discharge. Other occupancies shall not have direct access to the Group R-1 and R-2 occupancy portion of the building or to the exit stairway serving the Group R-1 and R-2 occupancy.

Exception: Parking garages and occupied roofs that serve the Group R-1 and R-2 occupancy shall be permitted to have direct access to the exit stairway.

Revise as follows:

1023.12 Smokeproof enclosures.
Where required by Section 403.5.4, 405.7.2, ~~or~~ 412.2.2.1 or 1006.3.5.5, interior exit *stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

1031.2 Where required.
In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.
3. Group R-1 and R-2 occupancies located in stories with one one exit as permitted by Section 1006.3.5.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way, or to an egress balcony that leads to a public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

2024 International Fire Code

Revise as follows:

[BE] 1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any story or *occupiable roof*, where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).

2. Group R-1 and R-2 occupancies complying with Section 1006.3.5.

~~2~~3. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.

~~3~~4. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.

~~4~~5. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.

~~5~~6. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:

~~5.1~~ 6.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.

~~5.2~~ 6.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

[BE] TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

[BE] TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B[b], E, F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).

d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

[BE] 1006.3.4.1 Mixed occupancies.
Where one *exit*, or *exit access stairway* or *ramp* providing access to *exits* at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single *exit* shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

Add new text as follows:

1006.3.5 Group R-1 and R-2 occupancies. In Group R-1 and R-2 occupancies, a single exit shall be permitted from any story or occupiable roof where the number of dwelling units served per exit at each story comply with one of the following:

1. The basement and first through sixth story above grade plane with a maximum of 4 dwelling units or sleeping units per story.
2. The basement and first through third story above grade plane with a maximum of 6 dwelling units or sleeping units per story.

Such building shall comply with Sections 1006.3.5.1 through 1006.3.5.7.

1006.3.5.1 Construction type. The building is Type IA, IB, IIA, or IV construction.

1006.3.5.2 Automatic sprinkler system. An automatic sprinkler system shall be installed throughout in accordance with Section 903.3.1.1.

1006.3.5.3 Corridors. Dwelling units or sleeping units that do not open directly into an exterior exit stairway shall exit directly to a corridor complying with Section 1020.

1006.5.3.4 Travel distance. For Group R-1, the maximum exit access travel distance shall be not more than 75 feet (22.9 m). For Group R-2, the maximum exit access travel distance shall be not more than 125 feet (38.1 m). Travel distance from the exit access door of the unit to the exit door for the stairway shall be not more than 25 feet (7.62 m).

1006.3.5.5 Exit stairways. Means of egress shall be provided from each story above the level of exit discharge by an interior exit stairway or exterior exit stairway. Exit stairways shall be protected with 2-hour fire barriers in accordance with Section 707 or a 2-hour horizontal assemblies in accordance with Section 711. An interior exit stairway shall be a smokeproof enclosure in accordance with with Section 909.20.

1006.3.5.6 Emergency escape and rescue openings. Emergency escape and rescue openings shall be provided in accordance with

Section 1031.

1006.3.5.7 Mixed occupancies. Mixed occupancies shall be permitted at and below the level of exit discharge. Other occupancies shall not have direct access to the Group R-1 and R-2 occupancy portion of the building or to the exit stairway serving the Group R-1 and R-2 occupancy.

Exception: Parking garages and occupied roofs that serve the Group R-1 and R-2 occupancy shall be permitted to have direct access to the exit stairway.

Revise as follows:

[BE] 1023.12 Smokeproof enclosures.
Where required by Section 403.5.4, 405.7.2, ~~or~~ 412.2.2.1 or 1006.3.5.5, interior exit *stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

[BE] 1031.2 Where required.
In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.
3. Group R-1 and R-2 occupancies located in stories with one one exit as permitted by Section 1006.3.5.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way* , or to an egress balcony that leads to a *public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

Attached Files

- **Single-stair proposal attachment (2).pdf**
  https://www.cdpaccess.com/proposal/9653/28764/files/download/4799/

Reason: Many years ago, fire officials drafted codes based on their intuition of what's safest. These codes saved lives, but not all rules remain consistent with evidence. Hundreds of thousands of fires occur annually, resulting in several thousand deaths a year. There is

further a huge amount of evidence internationally. Therefore, even if past performance cannot predict every single possibility, there is enough data to say past performance closely reflects the level of risk. Old assumptions from before the Internet age, and before the advent of more modern fire-safety technologies, warrant fresh reexamination. I am accordingly proposing a new code section, because the existing requirements appear based on the following erroneous assumptions:

1) Bigger buildings with more staircases are safer than smaller buildings with fewer staircases.

2) Redundant staircases are so beneficial that it is safer to provide two nearby staircases without smoke control than a single staircase which resists smoke contamination via elements such as being open air, having a smoke-resistant vestibule with automatic opening windows, or being protected with a pressurization system.

3) Transient occupancies like hotels are more dangerous than ordinary dwellings, even when accounting for the additional protective features this construction type is typically required to follow.

All these assumptions are challenged by data. Therefore, it is imperative that the code be updated to provide fair treatment based on risk.

Previously, I assisted two other individuals to support a code change proposal in R-2 (non-transient) single exit cases. That proposal (10412) contains a reason statement, based on citations, that explains why small single exit buildings with enhanced protectives experience satisfactory safety performance. Please accept that proposal's reason statement here as well. Please additionally accept the following reasoning in support of extending allowances to hotels:

Per NFPA's latest Home Structure Fires Report, 49% of fires involve cooking. Cooking is much less likely to occur in hotel/motel occupancies because many rooms don't include kitchens. Even a room does include a kitchen or kitchenette, it may be less utilized if the hotel offers breakfast, people receive other meals at events like conferences or weddings, or they choose to use limited vacation time to go to restaurants vs shopping for ingredients and cooking themselves.

The second highest fatality generator is heating equipment, such as space heaters. These fires cause 13% of deaths. I don't have data on this, but reasonably believe people don't commonly travel to hotels with space heaters. If they come on an airplane, carrying heaters would waste baggage space and consume unnecessary weight allowance.

The final point on the NFPA list I will note is smoking materials. These are the 5th largest cause of fatal fires, generating 5% of deaths. Since many hotels are smoke-free, this is also less of a risk in this case.

In all, since potentially close to 2/3rds of the fire causes are eliminated, it is unjust for hotels to face stricter stairway requirements than similarly sized non-transient occupancies.

This risk argument is further supported by the 2010 US Fire Administration report on hotel fires. This shows hotels/motels experience less than half the number of fatalities per 1000 fires. Though injuries are slightly higher, since this is from 2005-2007 data, I wouldn't be surprised if the injury rate is now also lower in hotels, considering the proportion of new hotels fitted with sprinklers vs new single-family homes. On the subject of exit knowledge, since we are talking such small corridors, the hazard of people getting lost is extremely low. Further, research has linked central stair placement with huge increases in utilization of the stairs vs elevator. We can therefore expect more people to be familiar with the stair location in a small single stairway case vs the other scenario. If we are still concerned about wayfinding, this proposal could be amended to require low level egress path markers compliant with UL 1994, to reinforce the exit location.

Across the US and world, there are many small-scale hotels centered around an ornate central staircase. Some operate as bed and breakfasts. In the US, these buildings are often allowed due to their historic nature or are illegal conversions rented online. Given the demand for home-like transient buildings, the fire code should provide more options for this. Doing so will encourage more people to act under the purview of regulators, vs under-the-table operations.

As a final note, if the code committee is not comfortable going up to 6 stories single stair in this case, I believe they should at least raise the R1 single stair allowance to 3 or 4 stories. This would better reflect the level of risk in R1 vs R2 cases.

Bibliography: 1. Hall, S. Home Structure Fires Report. *National Fire Protection Association*. 2023. https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/home-structure-fires

2. Hotel and Motel Fires. Topical Fire Report Series. Volume 10, Issue 4 / January 2010. US Fire

Administration. https://apps.usfa.fema.gov/downloads/pdf/statistics/v10i4.pdf

3. Bassett DR, Browning R, Conger SA, Wolff DL, Flynn JI. Architectural design and physical activity: an observational study of staircase and elevator use in different buildings. J Phys Act Health. 2013 May;10(4):556-62. https://doi.org/10.1123/jpah.10.4.556

SEE ADDITIONAL SOURCES IN Proposal 10412

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Since this allows for a new type of construction not currently allowed, there are no immediate cost impacts.

Compared with an existing allowed building, we expect a 7% new construction cost decrease. This is based on additional floor area not consumed by stairwells and inefficient corridors. The actual usable area would increase closer to 9%, but we assume some savings would be offset by investments in more advanced protectives such as smoke control systems. Thus, for a $2,000,000 small hotel, the costs would fall by $14,000.

Estimated Immediate Cost Impact Justification (methodology and variables):

See Proposal 10412 attachment for additional cost details.

Estimated Life Cycle Cost Impact:

Estimated to be similar to the initial cost savings (7%), mainly due to lower HVAC costs, less maintenance of materials, and more leasable area.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

See Proposal 10412 attachment for additional cost details.

E26-24

IBC: 1007.1.1.1, 1017.3; IFC: [BE] 1007.1.1.1, [BE] 1017.3

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1007.1.1.1 Measurement point.
The separation distance required in Section 1007.1.1 shall be measured in accordance with the following:

1. The separation distance to *exit* or *exit access doorways* shall be measured to any point along the width of the doorway.
2. The separation distance to *exit access stairways* shall be measured to the closest riser.
3. The separation distance to *exit access ramps* shall be measured to the start of the ramp run.
4. Where an exterior exit stairway or ramp connects to an open-ended corridor or an egress balcony, the separation distance shall be measured to the closest riser or start of the ramp run.

1017.3 Measurement.
Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an *exit*. Where more than one exit is required, *exit* access travel distance shall be measured to the nearest exit.

Exceptions:

1. In *open parking garages*, *exit access* travel distance is permitted to be measured to the closest riser of an *exit access stairway* or the closest slope of an *exit access ramp*.
2. In *smoke protected seating* and *open air assembly seating*, exit access travel distance shall be measured in accordance with Section 1030.7.
3. Where an exterior exit stairway or ramp serves an open-ended corridor or an egress balcony, the exit access travel distance shall be measured to the closest riser or start of the ramp run.

2024 International Fire Code

Revise as follows:

[BE] 1007.1.1.1 Measurement point.
The separation distance required in Section 1007.1.1 shall be measured in accordance with the following:

1. The separation distance to *exit* or *exit access doorways* shall be measured to any point along the width of the doorway.
2. The separation distance to *exit access stairways* shall be measured to the closest riser.
3. The separation distance to *exit access ramps* shall be measured to the start of the *ramp* run.
4. Where an exterior exit stairway or ramp connects to an open-ended corridor or an egress balcony, the separation distance shall be measured to the closest riser or start of the ramp run.

[BE] 1017.3 Measurement.
Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an *exit*. Where more than one *exit* is required, *exit access* travel distance shall be measured to the nearest *exit*.

Exceptions:

1. In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an *exit access stairway* or the closest slope of an *exit access ramp*.

2. In smoke-protected seating and open-air assembly seating, *exit access* travel distance shall be measured in accordance with Section 1030.7.

3. Where an exterior exit stairway or ramp serves an open-ended corridor or an egress balcony, the exit access travel distance shall be measured to the closest riser or start of the ramp run.

Reason: There is not a clear location for separation or travel distance measurement for exit stairway and ramps permitted where exterior exit stairways or ramps connected to open ended corridors and egress balconies. The added language would address those situations and is consistent with open exit access stairways and ramps.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of current requirements for how to measure exterior exit stairways or ramps where there is not an exit enclosure.

E26-24

E27-24

IBC: 1007.1.2; IFC: [BE] 1007.1.2

Proponents: Ray Steadward, Town of Enfield CT, CT Code Development (rsteadward@enfield.org)

2024 International Building Code

Revise as follows:

1007.1.2 Three or more exits or exit access doorways. Where access to three or more *exits* is required, not less than two *exit* or *exit access doorways* shall be arranged in accordance with the provisions of Section 1007.1.1. Additional required *exit* or *exit access doorways* shall ~~be arranged a reasonable distance apart so that if one becomes blocked, the others will be available.~~ have a separation distance of not less than one-quarter of the length of the maximum overall diagonal dimension of the area served from any other required exit unless approved.

2024 International Fire Code

Revise as follows:

[BE] 1007.1.2 Three or more exits or exit access doorways.
Where access to three or more *exits* is required, not less than two *exit* or *exit access doorways* shall be arranged in accordance with the provisions of Section 1007.1.1. Additional required *exit* or *exit access doorways* shall ~~be arranged a reasonable distance apart so that if one becomes blocked, the others will be available.~~ have a separation distance of not less than one-quarter of the length of the maximum overall diagonal dimension of the area served from any other required exit unless approved.

Reason: The term “reasonable distance” is very subjective. A minimum identifier needs to be added to eliminate the ambiguity.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This will not increase the cost of construction, it provides direction on the intent of the code.

E28-24

IBC: 1008.2.1, 1011.3, 1011.6, 1011.7.1, 1011.13, 1023.9, 1027.5, 2406.4.6; IFC: [BE] 1008.2.1, [BE] 1011.3, [BE] 1011.6, [BE] 1011.7.1, [BE] 1011.13, [BE] 1023.9, [BE] 1027.5

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1008.2.1 Illumination level under normal power.
The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, and exit stairways ~~and at their required landings~~, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

1011.3 Headroom.
Stairways shall have a headroom clearance of not less than 80 inches (2032 mm) measured vertically from a line connecting the *nosings*. Such headroom shall be continuous above the *stairway* to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the *stairway* ~~and landing~~.

Exceptions:

1. *Spiral stairways* complying with Section 1011.10 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; where the *nosings* of treads at the side of a *flight* extend under the edge of a floor opening through which the *stair* passes, the floor opening shall be allowed to project horizontally into the required headroom not more than $4\frac{3}{4}$ inches (121 mm).

1011.6 Stairway landings.
There shall be a floor or landing at the top and bottom of each ~~*stairway*~~ *flight*. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of *stairways* served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the *stairway* or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where *wheelchair spaces* are required on the *stairway* landing in accordance with Section 1009.6.3, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*.

Exceptions:

1. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1030.
2. Where curved *stairways* of constant radius have intermediate landings, the landing depth shall be measured horizontally between the intersection of the walkline of the lower *flight* at the landing *nosing* and the intersection of the walkline of the upper *flight* at the *nosing* of the lowest tread of the upper *flight*.
3. Where a landing turns 90 degrees (1.57 rad) or more, the minimum landing depth in accordance with this section shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the *flight* served.

1011.7.1 Stairway walking surface. The walking surfaces ~~surface of treads and landings~~ of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $^1/_2$-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking *structures* accessible to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^1/_8$ inches (29 mm) cannot pass through the opening.

1011.13 Guards.

Guards shall be provided along *stairways* ~~and landings~~ where required by Section 1015 and shall be constructed in accordance with Section 1015. Where the roof hatch opening providing the required access is located within 10 feet (3049 mm) of the roof edge, such roof access or roof edge shall be protected by *guards* installed in accordance with Section 1015.

1023.9 Stairway identification signs.

A sign shall be provided at each floor level landing in an *interior exit stairway* and *ramp* connecting more than three *stories* designating the floor level, the terminus of the top and bottom of the *interior exit stairway* and *ramp* and the identification of the *stairway* or *ramp.* The signage shall state the story of and direction to the *exit discharge,* and the availability of roof access from the *interior exit stairway* and *ramp* for the fire department. The bottom of the sign shall be located not less than 5 feet (1524 mm) above the floor level landing in a position that is readily visible when the doors are in the open and closed positions.

1027.5 Location.

Exterior exit stairways and *ramps* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramp* ~~*ramps*~~, including the ramp landing ~~landings~~, to:

1. Adjacent *lot lines*.
2. Other portions of the *building*.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.

For the purposes of this section, other portions of the building shall be treated as separate *buildings*.

Exception: *Exterior exit stairways* and *ramps* serving individual *dwelling units* of Group R-3 shall have a minimum *fire separation distance* of 5 feet (1525 mm).

2406.4.6 Glazing adjacent to stairways and ramps.

Glazing where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the plane of the adjacent walking surface of *stairways*, ~~landings between *flights* of *stairs* and~~ *ramps* and ramp landings shall be considered to be a hazardous location.

Exceptions:

1. The side of a *stairway*, ~~landing~~ ramp or *ramp* landing that has a *guard* complying with the provisions of Sections 1015 and 1607.9, and the plane of the glass is greater than 18 inches (457 mm) from the railing.
2. Glazing 36 inches (914 mm) or more measured horizontally from the walking surface.

2024 International Fire Code

Revise as follows:

[BE] 1008.2.1 Illumination level under normal power. The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, and exit stairways ~~and at their required landings~~, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking

surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

[BE] 1011.3 Headroom. *Stairways* shall have a headroom clearance of not less than 80 inches (2032 mm) measured vertically from a line connecting the *nosings*. Such headroom shall be continuous above the *stairway* to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the *stairway* ~~and landing~~.

Exceptions:

1. *Spiral stairways* complying with Section 1011.10 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; where the *nosings* of treads at the side of a *flight* extend under the edge of a floor opening through which the *stair* passes, the floor opening shall be allowed to project horizontally into the required headroom not more than $4\,^{3}/_{4}$ inches (121 mm).

[BE] 1011.6 Stairway landings.

There shall be a floor or landing at the top and bottom of each ~~*stairway*~~ *flight*. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of *stairways* served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the *stairway* or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where wheelchair spaces are required on the stairway landing in accordance with Section 1009.6.3, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exceptions:

1. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1030.
2. Where curved *stairways* of constant radius have intermediate landings, the landing depth shall be measured horizontally between the intersection of the walkline of the lower *flight* at the landing *nosing*and the intersection of the walkline of the upper *flight* at the *nosing*of the lowest tread of the upper *flight*.
3. Where a landing turns 90 degrees (1.57 rad) or more, the minimum landing depth in accordance with this section shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the *flight* served.

[BE] 1011.7.1 Stairway walking surface. The walking surfaces ~~surface of treads and landings~~ of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $^{1}/_{2}$-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1\,^{1}/_{8}$ inches (29 mm) cannot pass through the opening.

[BE] 1011.13 Guards.

Guards shall be provided along *stairways* ~~and landings~~ where required by Section 1015 and shall be constructed in accordance with Section 1015. Where the roof hatch opening providing the required access is located within 10 feet (3049 mm) of the roof edge, such roof access or roof edge shall be protected by *guards* installed in accordance with Section 1015.

[BE] 1023.9 Stairway identification signs.

A sign shall be provided at each floor level landing in an *interior exit stairway* and *ramp* connecting more than three stories designating the floor level, the terminus of the top and bottom of the *interior exit stairway* and *ramp* and the identification of the *stairway* or *ramp*. The signage shall state the story of, and the direction to, the *exit discharge* and the availability of roof access from the *interior exit stairway* and *ramp* for the fire department. The bottom of the sign shall be located not less than 5 feet (1524 mm) above the floor level landing in a position that is readily visible when the doors are in the open and closed positions.

[BE] 1027.5 Location.

Exterior exit stairways and *ramps* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, including landings, to:

1. Adjacent lot lines.
2. Other portions of the building.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 of the International Building Code based on *fire separation distance*.

For the purposes of this section, other portions of the building shall be treated as separate buildings.

Exception: *Exterior exit stairways* and *ramps* serving individual *dwelling units* of Group R-3 shall have a *fire separation distance* of not less than 5 feet (1524 mm).

Reason: Stairway is a defined term and as such stairways have two basic components landings and flights. Flight is also a defined term and as such do not include landings. The same definitions appear in both the IBC and IRC is:

> **Stairway.** One or more flights of stairs, either exterior or interior, **with the necessary landings** and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

> **Flight.** A continuous run of rectangular treads, winders or combination thereof from one landing to another.

Landings are currently only required at the top and bottom of stairways. Landings and flights of stairs are the elements of a stairway. The current text is incorrect because landings are used between flights within a stairway to change direction or stride or to offer a rest not just at the top and bottom of a stairway. To correct this, we have deleted “stairway” and substituted “flight” in **1011.6 Stairway landings** and searched the code for further necessary changes related to the term landing.

In **1011.3 Headroom** and **1011.3 Guards**, we have deleted "and landings" because a stairway includes the landings by definition.

In **1011.7.1 Stairway walking surface**, we have deleted "treads and landings" as these terms are superfluous and understood as the defined components of the stairway.

In **1023.9 Stairway identification signs**, we have inserted "level" in two locations to more specifically describe that the landings where the required signs are to be located are at the floor levels.

In **1027.5 Location** we corrected the plurality of stairway and inserted "ramp" before landing because landings are part of a stairway but are not part of a ramp. We made similar changes in **2406.4.6 Glazing adjacent to stairways and ramps** and in **1008.2.1 Illumination level under normal power,** and also deleted "landings between flights of stairs and", "and at their required landings" respectively. The text was deleted because landings are defined as part of a stairway and the language is redundant.These corrections assure that landings are required at between flights of stairs as well as at the the top and bottom of stairways and provide for the correct use of the term stairway as defined in the code. Comprehensive changes have been made in each of the related IBC requirements relating to landings for both stairways and ramps to assure consistency throughout the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The changes in the text provide for clarification and consistent use of terms defined in the code and have no effect upon the cost of construction.

E29-24

IBC: 1008.2.1; IFC: [BE] 1008.2.1

Proponents: Jack Bailey, One Lux Studio LLC, International Association of Lighting Designers (jbailey@oneluxstudio.com); Harold Jepsen, Legrand (harold.jepsen@legrand.us); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com); Koni Sims, ACB Board of Director, American Council of the Blind (ACB), Visually Impaired/Low Vision (koni.l.sims@gmail.com); Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com)

2024 International Building Code

Revise as follows:

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The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along ~~*exit access stairways*~~, interior exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

2024 International Fire Code

Revise as follows:

[BE] 1008.2.1 Illumination level under normal power.
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2. Steps, landings and the sides of *ramps* shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

Reason: 1 footcandle minimum was the required illuminance on stairs in all versions of the IBC since its' first publication in 2000 until the 2021 version. In 2021 this was increased to 10 footcandles minimum. We believe this increase should have been limited to interior exit stairs. Please consider the following:

1. 10 footcandles minimum illuminance is extremely bright for an exterior space. For reference, the Illuminating Engineering Society (IES RP-43-22) recommends the following for walkways: a minimum illuminance of 0.1 footcandles, and an average illuminance not to exceed 3 footcandles. 10 footcandles minimum illuminance will take away the "night vision" of anyone with dark-adapted eyes who uses the stair, and could cause safety issues as they proceed to other exterior areas with more "normal" illuminances.

2. Exterior-rated occupancy sensors are not available for most pedestrian-scale lighting, which means that lights on exterior stairs will usually burn all night long, which results in wasted energy and increased light pollution / light trespass.

3. 10 footcandles is far in excess of the light levels found in many interior spaces like restaurants, hotels, and the common spaces in

many residential buildings. Requiring exit access stairs in low-light facilities like these to be lighted to such a high level will actually interfere with operations, and will result in non-compliance. The code shouldn't include requirements which are unreasonable - forcing people to install lights that will never be turned on after the inspection, and leaving them in violation of the IBC / IFC. Please also consider that, in new buildings, people with low vision will have the option of not using exit access stairs, as there will always be a lift or ramp available.

Bibliography: ANSI/ICC 117.1 *Accessible and Usable Buildings and Facilities* 2017 – 4th Version: Sept 2022 International Code Council. Washington, DC

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

By reducing illumination requirements on exterior stairs, this proposal should reduce the cost of construction.

E29-24

E30-24

IBC: 1008.2.1; IFC: [BE] 1008.2.1

Proponents: Jack Bailey, One Lux Studio LLC, International Association of Lighting Designers (jbailey@oneluxstudio.com); Eunice Noell-Waggoner, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Harold Jepsen, Legrand (harold.jepsen@legrand.us); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com); Koni Sims, ACB Board of Director, American Council of the Blind (ACB), Visually Impaired/Low Vision (koni.l.sims@gmail.com); Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com)

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The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than an average of 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

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1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

Reason: The code change proposal (E27-18) that resulted in stairway illuminance levels being increased from 1 footcandle minimum to 10 footcandles minimum had this reason statement:

The Illuminating Engineering Society (IES) provide recommendations for the foot candle levels to ensure adequate illumination and safety for occupants in common areas to assist in achieving appropriate light levels with the greatest energy efficiency dependent on the occupancy and the level of detailed work. The recommended range for general circulation for average maintained foot candles is 10-30 foot candles. The intent of this provision is to provide the minimum recommended lighting on stairways so that the walking surface is visible. Persons with low vision, or those who are elderly may benefit from higher levels, but that is left for a best design practice.

In discussions with proponents, they have indicated that they had intended for the average illuminance be no less than 10 fc per

Illuminating Engineering Society Standard IES-RP-10, which recommends 10 footcandles average for stairs. But by leaving out the word "average" from the illumination level requirement, Section 1008.2.1 is interpreted to mean that the illumination requirement in stairways is 10 footcandles minimum. This oversight has led to over-lighting of stairways with accompanying glare and wasted energy.

This proposal adds the clarifying term "average" into Section 1008.2.1 "the average illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the stairway is in use," This proposal aligns with the original proponents' intent and with the illuminance recommendation for stairs in IES-RP-10-20 Errata 2.

Please keep in mind that the general requirement for a minimum of 1 footcandle in means of egress would also still apply here, so that the requirement if this proposal is approved would be for a 10 footcandle average, with minimum at the darkest point of 1 footcandle. This 1 footcandle minimum was considered sufficient for safety in stairs in all versions of the IBC prior to 2021.

Bibliography: IBC Code Change No: E27-18 Section(s): 1008.2.1 (New) Proponents: Dawn Anderson, representing self (gonedawning@yahoo.com); Dan Buuck, representing National Association of Home Builders (dbuuck@nahb.org); David Collins, representing the American Institute of Architects (dcollins@preview-group.com); Marsha Mazz, representing U.S. Access Board (mazz@Access-Board.gov); Dominic Marinelli, representing United Spinal Association (DMarinelli@accessibility-services.com). International Code Council

ANSI/IES RP-10-20 Errata 2 *Lighting Common Applications 2020*. Illuminating Engineering Society. New York.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

By reducing light level requirements this proposal may result in a reduction in construction costs. It will certainly result in reduced cost of energy.

E30-24

E31-24

IBC: 1008.2.1; IFC: [BE] 1008.2.1

Proponents: Jack Bailey, One Lux Studio LLC, International Association of Lighting Designers (jbailey@oneluxstudio.com); Eunice Noell-Waggoner, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Harold Jepsen, Legrand (harold.jepsen@legrand.us); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com); Koni Sims, ACB Board of Director, American Council of the Blind (ACB), Visually Impaired/Low Vision (koni.l.sims@gmail.com); Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com)

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Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

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Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

Reason: 1. To enhance safety by improving the visibility of stairs. Visibility is improved when there is visual contrast between the nosing and the portion of the tread near the riser. With overhead lighting, this contrast is created by (a) contrasting materials, and (b) the shadow created by the riser. If the 10fc minimum is interpreted to be measured in the shadow adjacent to the riser, then lighting will be designed to minimize this shadow and reduce contrast and hence reduce visibility.

2. To provide for greater consistency in application and enforcement of the code by specifying where readings are to be taken. There is a fair amount of disagreement about how far into the darkest corner a light meter should be placed when searching for the point with minimum illuminance.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal could be interpreted to reduce overall light level requirements in stairs, which would reduce costs. This impact is likely minimal. There is no plausible scenario where this would increase costs.

E31-24

E32-24

IBC: SECTION 202 (New), 1008.2.1; IFC: SECTION 202 (New), [BE] 1008.2.1

Proponents: Jack Bailey, One Lux Studio LLC, International Association of Lighting Designers (jbailey@oneluxstudio.com); Eunice Noell-Waggoner, President, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Harold Jepsen, Legrand (harold.jepsen@legrand.us); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com); Koni Sims, ACB Board of Director, American Council of the Blind (ACB), Visually Impaired/Low Vision (koni.l.sims@gmail.com); Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com)

2024 International Building Code

Add new definition as follows:

OCCUPANT SENSOR CONTROL. An automatic control device or system that detects the presence or absence of people within an area and causes lighting, equipment, or appliances to be regulated accordingly.

Revise as follows:

1008.2.1 Illumination level under normal power.
The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

~~**Exception**~~ **Exceptions:**

1. *Occupant sensor controls* shall be permitted to reduce illumination levels along the *means of egress* serving occupied rooms and spaces where the following conditions are met:
   1.1. When no occupants are present, the illumination level shall not be less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at the walking surface. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.
   1.2. Along *stairways*, when an occupant is present on a *landing*, the illumination level shall be automatically restored on that landing and on all *flights* adjacent to that *landing*.
   1.3. Along *stairways*, when an occupant is present on a *flight*, the illumination level shall be automatically restored on that *flight* and on both *landings* adjacent to that *flight*.
   1.4. Along the *means of egress* in rooms and spaces other than *stairways*, the illumination level shall be automatically restored in each *occupant sensor* control zone when occupants are present.
   1.5. After the occupants leave each *occupant sensor* control zone, the illumination level shall be maintained for no less than 15 minutes.
   1.6. In *interior exit stairways*, *interior exit ramps*, and *exit passageways* in buildings with fire alarm systems, the illumination level shall be automatically restored upon activation of the premises' fire alarm system.
2. For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:
   2.1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
   2.2 Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

2024 International Fire Code

Add new definition as follows:

OCCUPANT SENSOR CONTROL. An automatic control device or system that detects the presence or absence of people within an area and causes lighting, equipment, or appliances to be regulated accordingly.

Revise as follows:

[BE] 1008.2.1 Illumination level under normal power.

The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit *stairways* and at their required landings, the illumination level shall be not less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

~~Exception~~ Exceptions:

1. *Occupant sensor controls* shall be permitted to reduce illumination levels along the *means of egress* serving occupied rooms and spaces where the following conditions are met:
   1.1. When no occupants are present, the illumination level shall not be less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at the walking surface. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.
   1.2. Along *stairways*, when an occupant is present on a *landing*, the illumination level shall be automatically restored on that landing and on all *flights* adjacent to that *landing*.
   1.3. Along *stairways*, when an occupant is present on a *flight*, the illumination level shall be automatically restored on that *flight* and on both *landings* adjacent to that *flight*.
   1.4. Along the *means of egress* in rooms and spaces other than *stairways*, the illumination level shall be automatically restored in each *occupant sensor* control zone when occupants are present.
   1.5. After the occupants leave each *occupant sensor* control zone, the illumination level shall be maintained for no less than 15 minutes.
   1.6. In *interior exit stairways*, *interior exit ramps*, and *exit passageways* in buildings with fire alarm systems, the illumination level shall be automatically restored upon activation of the premises' fire alarm system.

2. For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:
   2.1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
   2.2 Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

Reason: To provide necessary clarity for the safe installation of occupant sensors to conserve energy in unoccupied means of egress.

A lot of energy is wasted operating lights in unoccupied spaces. The IBC currently requires that light levels be maintained at 1 footcandle minimum in many types of unoccupied spaces, provided that those spaces serve other spaces which may be occupied. First, please consider that a 1 footcandle minimum implies an average of 2-5 footcandes with typical uniformity ratios. Second, please consider that there is often no practical way to determine if the "spaces served" are occupied (e.g. a corridor in a residential building serving multiple dwelling units is always assumed to be serving occupied spaces), so the 2-5 footcandle average illumination is maintained 24 hours/day, 365 days/year even with occupant sensors controlling the lights.

This proposal would allow a reduction of light levels to 1 footcandle average in unoccupied means of egress serving occupied spaces. The specified illuminance levels for the unoccupied condition (Exception 1.1) are identical to the illuminance level required while occupied under emergency power (1008.3.2). So these spaces are always maintained at a light level which has been deemed to be safe under all versions of the IBC dating back to 2000, even if the occupant sensors were to fail to raise light levels when an occupant entered.

Energy savings would be quite significant where occupant sensor controls are provided in spaces like corridors, warehouses, and open

office areas, where anywhere from 50% to 80% less energy would be required to light unoccupied spaces.

To ensure that safety is not compromised, and to ensure consistent application and enforcement of the code, this proposal adds six requirements for the safe installation and operation of occupant sensors.

1.1 Specifies the illumination level for unoccupied means of egress (as explained above).

1.2 and 1.3 Allow for the most common lighting control strategy in stairways (occupant sensors integrated into fixtures) to be employed, provided that the sensors can detect motion for the full flight leading to each landing. This way occupants are never walking into darkness.

1.4 Requires that sensors automatically raise light levels when an occupant enters (i.e. manual-on "vacancy sensors" are not permitted).

1.5 Requires that occupant sensors keep lights at the occupied level 15 minutes after the last occupant leaves the control zone, to avoid "false offs" (i.e. where illumination levels are reduced while the space is still occupied).

1.6 Requires that critical spaces in the exit automatically rise their occupied level when the fire alarm system is triggered, because occupant sensors are not tested in smoke.

None of these safety requirements are included in the IECC.

Please note that ICC A117.1 includes language permitting the use of occupant sensors which are "equipped for fail-safe operation and evaluated for this purpose" along stairways. But controls manufacturers do not do this, and similar language was removed from NFPA101 in 2015.

Bibliography: ANSI/ICC 117.1 *Accessible and Usable Buildings and Facilities* 2017 – 4th Version: Sept 2022 International Code Council. Washington, DC

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal does not requireusers of the code to do anything. It allowsthem to install occupant sensing lighting controls to save energy.

E32-24

E33-24

IBC: 1008.2.1, 1008.2.3; IFC: [BE] 1008.2.1, [BE] 1008.2.3

Proponents: Jack Bailey, One Lux Studio LLC, International Association of Lighting Designers (jbailey@oneluxstudio.com); Eunice Noell-Waggoner, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Harold Jepsen, Legrand (harold.jepsen@legrand.us); Marsha K. Mazz, United Spinal Association, United Spinal Association (mmazz@unitedspinal.org); Koni Sims, ACB Board of Director, American Council of the Blind (ACB), Visually Impaired/Low Vision (koni.l.sims@gmail.com); Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com)

2024 International Building Code

Revise as follows:

1008.2.1 Illumination level under normal power. The interior *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

1008.2.3 Exit discharge. Illumination shall be provided along the path of travel for the *exit discharge* from each exit to the *public way*. Illumination levels shall not be less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at the walking surface. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

Exception: Illumination shall not be required where the path of the *exit discharge* meets both of the following requirements:

1. The path of *exit discharge* is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

2024 International Fire Code

Revise as follows:

[BE] 1008.2.1 Illumination level under normal power. The interior *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

[BE] 1008.2.3 Exit discharge.
Illumination shall be provided along the path of travel for the *exit discharge* from each exit to the *public way*. Illumination levels shall not

be less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at the walking surface. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

Exception: Illumination shall not be required where the path of the *exit discharge* meets both of the following requirements:

1. The path of *exit discharge* is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

Reason: To reduce the significant environmental impact that results when exterior spaces are over-lighted. Exterior spaces are rarely illuminated to a minimum of 1 footcandle, and exterior exit discharges lighted to meet current requirements in the IBC are unusually bright. This proposal would ensure that light levels which are currently considered sufficient for emergency conditions (refer to Section 1008.3.2) are maintained at all times, which will reduce energy costs and reduce light pollution.

Exterior occupancy sensors are not available for most pedestrian-scale lighting, which means that exit discharge lights will usually burn all night long.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

By reducing light level requirements this proposal will result in a reduction in construction costs for many projects as fixtures can be spaced further apart. Construction costs will not be increased for any projects.

E33-24

E34-24

IBC: 1008.2.3, IES (New); IFC: [BE] 1008.2.3, IES (New)

Proponents: Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Eunice Noell-Waggoner, President, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com); Greg Guarnaccia, International Light Studio, IES Aged and Partially Sighted Committee (greg@ils.lighting); Brittany Lynch, Clanton & Associates, Clanton & Associates (brittany@clantonassociates.com)

2024 International Building Code

Revise as follows:

1008.2.3 Exit discharge.
Illumination shall be provided along the path of travel for the *exit discharge* from each exit to the *public way*. Exterior luminaires illuminating the *exit discharge* shall have glare ratings not greater than G2 as specified in IES TM-15.

Exception: Illumination shall not be required where the path of the *exit discharge* meets both of the following requirements:

1. The path of *exit discharge* is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

Add new standard(s) as follows:

IES ANSI/IES TM-15 - 20. Luminaire Classification Systems for Outdoor Luminaires

2024 International Fire Code

Revise as follows:

[BE] 1008.2.3 Exit discharge.
Illumination shall be provided along the path of travel for the *exit discharge* from each *exit* to the *public way*. Exterior luminaires illuminating the *exit discharge* shall have glare ratings not greater than G2 as specified in IES TM-15.

Exception: Illumination shall not be required where the path of the *exit discharge* meets both of the following requirements:

1. The path of *exit discharge* is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

Add new standard(s) as follows:

IES ANSI/IES TM-15 - 20. Luminaire Classification Systems for Outdoor Luminaires

Staff Analysis: A review of the standard proposed for inclusion in the code, IES ANSI/IES TM-15 - 20 Luminaire Classification Systems for Outdoor Luminaires, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

Reason: As described in the IES Publication ANSI/IES LS-8-20 Lighting Science: Vision – Perceptions and Performance, the affect of glare on visibility helps provide the background to why RP-43 has both requirements for recommended average illuminance and glare rating of the distribution of luminaires.
ANSI/IES LS-8-20 Lighting Science: Vision – Perceptions and Performance states:
4.4 Glare is the situation where the eye is unable to adapt to the visual scene. This may occur when the overall light level is too great, or where there is a large difference in the brightness of difference parts of the scene, such as luminaires seen against a dark background…. Glare arising from an excessive luminance range in a visual environment can have two effects: a reduction in visual performance until it

is close to or on the escarpment of visual performance (see Section 5.2) and a feeling of discomfort. These two outcomes are known as disability glare and discomfort glare, respectively. A particular source of glare may lead to one or both of these outcomes.

ANSI/IES RP-43-22 Recommended Practice – Recommended Illuminance Criteria for People in Outdoor Environments describes:
Table A-3: The recommended maximum glare rating of G2 for stairs and ramps for all lighting zones. Luminaire glare ratings of G2 or less are recommended for almost all activities listed in RP-43 and thus are appropriate for the path of travel for the exit discharge from each exit to the public way.
The glare rating definition for exterior luminaires is described in ANSI/IES TM-15-20 Technical Memorandum: Luminaire Classification System for Outdoor Luminaires. TM-15 glare ratings are readily available on specification sheets from exterior luminaire manufacturers.
ANSI/IES RP-28-20 Recommended Practice – Lighting and the Visual Environment for Older Adults and the Visually Impaired address disability and discomfort glare:
2.1.4 Glare. There are two types of glare: disability glare and discomfort glare. Either type of glare may be caused by direct or reflected sources. With a direct source light travels directly from the source to the eye such as from poorly shielded light sources .. Discomfort glare is a sensation of irritation or pain from high luminances in the field of view.

This proposal is assisting visibility through minimizing glare and protecting light to dark adaptation.

Bibliography: ANSI/IES LS-8-20. Lighting Science: Vision – Perceptions and Performance. Illuminating Engineering Society. New York.
ANSI/IES RP-28-20. Recommended Practice: Lighting and the Visual Environment for Older Adults and the Visually Impaired. Illuminating Engineering Society. New York.
ANSI/IES RP-43-22. Recommended Practice: Lighting Exterior Applications. Illuminating Engineering Society. New York.
ANSI/IES TM-15-20. Technical Memorandum: Luminaire Classification System for Outdoor Luminaires. Illuminating Engineering Society. New York.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Exterior luminaires with G2 glare rating or less do not cost more than those with a G3 or G4 rating.

E34-24

E35-24

IBC: 1008.3; IFC: [BE] 1008.3

Proponents: Lucas Pump, City of Cedar Rapids, Self (l.pump@cedar-rapids.org)

2024 International Building Code

Revise as follows:

1008.3 Illumination required by an emergency electrical system. An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
   1.1. *Aisles*.
   1.2. *Corridors*.
   1.3. *Exit access stairways* and *ramps*.
2. In *buildings* that require two or more exits or access to exits:
   2.1. Interior *exit access stairways* and *ramps*.
   2.2. Interior and *exterior exit stairways* and *ramps*.
   2.3. Exit passageways.
   2.4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
   2.5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the *exit discharge*.
3. In other rooms and spaces:
   3.1. Electrical equipment rooms.
   3.2. *Fire command centers*.
   3.3. Fire pump rooms.
   3.4. Generator rooms.
   3.5. Public restrooms ~~with and area greater then 300 square feet (27.87 m^2).~~

2024 International Fire Code

Revise as follows:

[BE] 1008.3 Illumination required by an emergency electrical system.
An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more *exits* or access to *exits*:
   1.1. *Aisles*.
   1.2. *Corridors*.
   1.3. *Exit access stairways* and *ramps*.

2. In buildings that require two or more *exits* or access to *exits*:
   2.1. *Interior exit access stairways* and *ramps*.
   2.2. *Interior* and *exterior exit stairways* and *ramps*.
   2.3. *Exit passageways*.
   2.4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
   2.5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the *exit discharge*.

3. In other rooms and spaces:
   3.1. Electrical equipment rooms.
   3.2. Fire command centers.
   3.3. Fire pump rooms.
   3.4. Generator rooms.
   3.5. Public restrooms ~~with an area greater than 300 square feet (27.87 m^2).~~

Reason: The deleting of this text of the square footage would require emergency lighting in all public restrooms. Public restrooms typically do not contain natural lighting, and when the electrical power goes out, these restrooms become completely black. Furthermore, a public restroom is usually not a familiar place, therefore safely exiting these spaces can be very difficult in an emergency situation.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The cost increase would be negligible because the average emergency light cost is between $20-$60 USD.

Estimated Immediate Cost Impact Justification (methodology and variables):

This would increase the cost of construction as emergency lighting would be required in all public restrooms, although the cost increase would be negligible because the average emergency light cost is between $20-$60 USD.

Estimated Life Cycle Cost Impact:

$20-$60 USD per new public restroom

Estimated Life Cycle Cost Impact Justification (methodology and variables):

Safety of occupants of the building

E35-24

E36-24

IBC: 1008.3; IFC: [BE] 1008.3

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1008.3 Illumination required by an emergency electrical system. An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
   1.1. *Aisles*.
   1.2. *Corridors*.
   1.3. *Exit access stairways* and *ramps*.
2. In *buildings* that require two or more exits or access to exits:
   2.1. Interior *exit access stairways* and *ramps*.
   2.2. Interior and *exterior exit stairways* and *ramps*.
   2.3. Exit passageways.
   2.4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
   2.5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the *exit discharge*.
3. In other rooms and spaces:
   3.1. Electrical equipment rooms.
   3.2. *Fire command centers*.
   3.3. Fire pump rooms.
   3.4. Generator rooms.
   3.5. Public restrooms with an area greater than 300 square feet (27.87 m^2).
   3.6. Areas of refuge.
   3.7 Exterior areas for assisted rescue.

2024 International Fire Code

Revise as follows:

[BE] 1008.3 Illumination required by an emergency electrical system.
An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more *exits* or access to *exits*:
   1.1. *Aisles*.
   1.2. *Corridors*.
   1.3. *Exit access stairways* and *ramps*.

2. In buildings that require two or more *exits* or access to *exits*:
   2.1. *Interior exit access stairways* and *ramps*.
   2.2. *Interior* and *exterior exit stairways* and *ramps*.
   2.3. *Exit passageways*.
   2.4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
   2.5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the *exit discharge*.
3. In other rooms and spaces:
   3.1. Electrical equipment rooms.
   3.2. Fire command centers.
   3.3. Fire pump rooms.
   3.4. Generator rooms.
   3.5. Public restrooms with an area greater than 300 square feet (27.87 m^2).
   3.6. Areas of refuge.
   3.7. Exterior areas for assisted rescue.

Reason: Essential portions of the interior egress system must be illuminated. Areas of refuge and exterior areas for assisted rescue are essential portions of the interior egress system and should be illuminated. Lighting at the areas of refuge would also make it easier to read the informational signage required in Section 1009.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This should not require any additional lighting fixtures. Areas of refuge in a stairway would most likely already be on the means of egress path that already had an emergency lighting requirement (Section 1008.3.2 Item 2). Exterior areas for assisted rescue should already have lights as exit discharge landings (Section 1008.3.2 Item 5).

E36-24

E37-24

IBC: 1009.1, 1009.2; IFC: [BE] 1009.1, [BE] 1009.2

Proponents: Matt Lescher, CCI, self (mattl@codeconsultants.com); Jim Safranek, Safranek Group LLC, Self (jim@safranekgroup.com); Gene Boecker, CCI, self (geneb@codeconsultants.com); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

1009.1 Accessible means of egress required.

Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one *accessible means of egress*. Where more than one *means of egress* is required by Section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by not less than two *accessible means of* egress. Where two accessible means of egress are required from any accessible space, at least two accessible means of egress shall be arranged a reasonable distance apart so that if one becomes blocked, at least one will be available.

Exceptions:

1. One *accessible means of egress* is required from an *accessible mezzanine* level in accordance with Section 1009.3, 1009.4 or 1009.5.
2. In assembly areas with ramped *aisles* or stepped *aisles*, one *accessible means of egress* is permitted where the *common path of egress travel* is accessible and meets the requirements in Section 1030.8.

Revise as follows:

1009.2 Continuity and components.

Each required *accessible means of egress* shall be continuous to a *public way* and shall consist of one or more of the following components:

1. *Accessible routes* complying with Section 1104.
2. *Interior exit stairways* complying with Sections 1009.3 and 1023.
3. *Exit access stairways* complying with Sections 1009.3 and 1019.3 or 1019.4.
4. *Exterior exit stairways* complying with Sections 1009.3 and 1027 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1009.4.
6. Platform lifts complying with Section 1009.5.
7. *Horizontal exits* complying with Section 1026.
8. *Ramps* complying with Section 1012.
9. *Areas of refuge* complying with Section 1009.6.
10. Exterior areas for assisted rescue complying with Section 1009.7 serving *exits* at the *level of exit discharge*.

Exception: Where an area of refuge, an exterior area for assisted rescue assistance, or stairway are components of an accessible means of egress, the path from the exit discharge to the public way is not required to be an accessible route.

2024 International Fire Code

Revise as follows:

[BE] 1009.1 Accessible means of egress required.

Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one *accessible means of egress*. Where more than one *means of egress* is required by Section 1006.2 or 1006.3 from any accessible space, each accessible

portion of the space shall be served by not less than two *accessible means of egress*. Where two accessible means of egress are required from any accessible space, at least two accessible means of egress shall be arranged a reasonable distance apart so that if one becomes blocked, at least one will be available.

Exceptions:

1. One *accessible means of egress* is required from an accessible *mezzanine* level in accordance with Section 1009.3, 1009.4 or 1009.5.
2. In assembly areas with ramped *aisles* or stepped *aisles*, one *accessible means of egress* is permitted where the common path of travel is accessible and meets the requirements in Section 1030.8.

[BE] 1009.2 Continuity and components.

Each required *accessible means of egress* shall be continuous to a *public way* and shall consist of one or more of the following components:

1. *Accessible routes* complying with Section 1104 of the International Building Code.
2. *Interior exit stairways* complying with Sections 1009.3 and 1023.
3. *Exit access stairways* complying with Sections 1009.3 and 1019.3 or 1019.4.
4. *Exterior exit stairways* complying with Sections 1009.3 and 1027 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1009.4.
6. Platform lifts complying with Section 1009.5.
7. *Horizontal exits* complying with Section 1026.
8. *Ramps* complying with Section 1012.
9. *Areas of refuge* complying with Section 1009.6.
10. Exterior areas for assisted rescue complying with Section 1009.7 serving *exits* at the *level of exit discharge*.

Exception: Where an area of refuge, an exterior area for assisted rescue assistance, or stairway are components of an accessible means of egress, the path from the exit discharge to the public way is not required to be an accessible route.

Staff Analysis: A question would be if the change to Section 1009.1 would conflict with the requirements for center core buildings in Section 1007.1.1 and fire service access elevators in Section 3007.6.1.

Reason: This proposal attempts to clarify two concepts in Section 1009 for accessible means of egress (AMOE):

1. Where two or more exits are required from an accessible space, the AMOE should also be two separate exits (1009.1).
2. The exception for “continuous to the public way” (1009.2).

This code change proposal is not intended to change the requirements, but only to clarify the code intent, which is also consistent with how we have generally seen 1009 interpreted and enforced.

1009.1

Where two means of egress (MOE) are required, Section 1009.2 requires at least two accessible means of egress (AMOE). The intent of the code has always been to provide people with disabilities at least two choices of exits. That way, in the case of an emergency, if a fire or other hazards block one path, another choice remains. However, as written, there is not a code path to other specific egress “criteria”/provisions (Exit Separation, Travel Distance, etc.) within the accessible means of egress (AME) section (1009). While the 1009 section references the other sections for egress components (Interior Exit Stairways 1009.3, 1023, Horizontal Exits 1026, etc.), it does not reference the egress criteria/provisions. Because of this, it appears that the specific egress criteria/provisions found in other sections within Chapter 10, would not be applicable for AME components. In theory, this isn’t an issue, as most egress components are not solely utilized as an AME component but also serve as a “standard” egress component. Given this, it generally results in both standard and AMOE egress components complying with the specific egress criteria/provisions found in Chapter 10.

This becomes an issue for spaces and stories that have multiple exits/exit access (more than 2). The exit separation requirements only require that a minimum of any 2 exits/exit access be “remote” and meet minimum distances for separation. This can unfortunately result in the two AMOE exit/exit access components not meeting this remoteness requirements, whereas the two, “standard” exit/exit access

components are meeting the remoteness requirement. This discrepancy in the AMOE provisions of the IBC can result in the placement of AMOE components that potentially present a greater risk to individuals with physical limitations than that posed to ambulatory individuals. Travel distance and CPT are another, issue, similar to that of exit/exit access remoteness, that becomes an issue when there are multiple exit/exit access components.

Taking these ideas into account, previous drafts of this code change proposal attempted to tie the AMOE provisions in Section 1009 to 1007 and 1016. However, this would have required egress calculations to be made for general egress and then calculated again for AMOE, which was felt to be overly complicated. Therefore, the sentence "Where two accessible means of egress are required from any accessible space, at least two accessible means of egress shall be arranged a reasonable distance apart so that if one becomes blocked, at least one will be available," was added. This language is consistent with the general egress provisions in Section 1007.1.2 which the team felt conveys the idea that where two AMOE are required, they should be two separate paths, the same that would be required under the general means of egress. The language was felt to allow a level of common sense because the main questions to be answered honestly are as follows:, "Are these two AMOE, truly two separate exits? & Would someone need to take the same path in order to get to both exits?"

The proposal does not limit additional AMOE from being provided in addition to the required two AMOE. Most stairway enclosures already meet the AMOE requirements. Therefore, signage required by Section 1112.3 is not required, except in where a stairway serves an accessible space but does not meet the requirements of 1009. This signage would already be required for these stairways under the current IBC langue, so this proposal does not impact the signage requirement. Where two AMOE are required at the level of exit discharge, two common AMOE components are: accessible routes to the public rights of way, and exterior areas for assisted rescue. This proposal would not increase the number of AMOE from the level of exit discharge; a maximum of two would still be required. The difference is that the proposal clarifies that people with disabilities should be given a choice to travel one way for the accessible route and have a different option of travel to the exterior area for assisted rescue. That way, if one path is blocked, a second route is provided for safety.

When considering this proposal, it's important to keep in mind an example of a large assembly space. This space may be required to have 6 exits to provide safety for people without disabilities. That same space is only required to provide two options for people with disabilities—it's not equivalent—but shouldn't we at least ensure that we're actually providing two separate options instead of one?

The proposal is simply clarifying is that the two AMOE should be separated.

1009.2

Section 1009.2 states that the AMOE must be made up of the components listed in Items 1 through 10, and that they shall be continuous to the public way. Under the current IBC language, the part about continuous to the public way is only true when the AMOE does not include assisted rescue from the emergency first responders. The current language leaves the door open for requiring an accessible route at locations between stairs and the public way. This concept does not make sense because stairs are not a component of an accessible route, so an accessible route should not be required for the path after stairs. Further, the concept for areas of refuge and exterior area for assisted rescue is to provide a safe place for people with disabilities to wait until the first responders can pick that person up and move them (assisted rescue). This assisted rescue will require travel down stairways, so again, it does not make sense to require an accessible route from an area that is not accessible.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The code change won't increase the cost of construction as it is in line with the current code intent. If an accessible space requires one MOE, then only one AMOE will be required. Buildings with two or more stories typically require at least two MOE, and will require two AMOE. This can generally be two stairways, when less than 5 stories, or a stairway and an elevator on standby powers, where the building is 5 stories or greater. With this change, the two AMOE can still be either of those options. The stairways would already be separated as required by the general MOE provisions. In this case, all this code change is saying is: where only two AMOE are provided, they cannot both be a stair and an elevator, if they are located right next to each other.

E38-24

IBC: 1009.2, 1009.7; IFC: [BE] 1009.2, [BE] 1009.7

Proponents: David Renn, PE, SE, City and County of Denver, Colorado Chapter Code Development Committee (david.renn@denvergov.org)

2024 International Building Code

Revise as follows:

1009.2 Continuity and components.
Each required *accessible means of egress* shall be continuous to a *public way* and shall consist of one or more of the following components:

1. *Accessible routes* complying with Section 1104.
2. *Interior exit stairways* complying with Sections 1009.3 and 1023.
3. *Exit access stairways* complying with Sections 1009.3 and 1019.3 or 1019.4.
4. *Exterior exit stairways* complying with Sections 1009.3 and 1027 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1009.4.
6. Platform lifts complying with Section 1009.5.
7. *Horizontal exits* complying with Section 1026.
8. *Ramps* complying with Section 1012.
9. *Areas of refuge* complying with Section 1009.6.
10. Exterior areas for assisted rescue complying with Section 1009.7 serving *exits* at the *level of exit discharge*.

Exception: An *accessible means of egress* that ends at one of the following components is not required to be continuous to a *public way*:

1. *Area of refuge* complying with Section 1009.6 at the *level of exit discharge* that provides direct access to an exterior *exit* door.
2. Exterior area for assisted rescue complying with Section 1009.7 serving an *exit* at the *level of exit discharge*.

1009.7 Exterior areas for assisted rescue. Exterior areas for assisted rescue shall be accessed by an *accessible route* from the area served, shall be located on the exterior landing adjacent to an *exit*, and shall comply with Sections 1009.7.1 through 1009.7.4.
~~.Where the *exit discharge* does not include an *accessible route* from an exit located on the *level of exit discharge* to a *public way*, an exterior area of assisted rescue shall be provided on the exterior landing in accordance with Sections 1009.7.1 through 1009.7.4.~~

2024 International Fire Code

Revise as follows:

[BE] 1009.2 Continuity and components.
Each required *accessible means of egress* shall be continuous to a *public way* and shall consist of one or more of the following components:

1. *Accessible routes* complying with Section 1104 of the International Building Code.
2. *Interior exit stairways* complying with Sections 1009.3 and 1023.
3. *Exit access stairways* complying with Sections 1009.3 and 1019.3 or 1019.4.
4. *Exterior exit stairways* complying with Sections 1009.3 and 1027 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1009.4.

6. Platform lifts complying with Section 1009.5.
7. *Horizontal exits* complying with Section 1026.
8. *Ramps* complying with Section 1012.
9. *Areas of refuge* complying with Section 1009.6.
10. Exterior areas for assisted rescue complying with Section 1009.7 serving *exits* at the *level of exit discharge*.

Exception: An *accessible means of egress* that ends at one of the following components is not required to be continuous to a *public way*:

1. *Area of refuge* complying with Section 1009.6 at the *level of exit discharge* that provides direct access to an exterior *exit* door.
2. Exterior area for assisted rescue complying with Section 1009.7 serving an *exit* at the *level of exit discharge*.

[BE] 1009.7 Exterior areas for assisted rescue. Exterior areas for assisted rescue shall be accessed by an *accessible route* from the area served, shall be located on the exterior landing adjacent to an *exit*, and shall comply with Sections 1009.7.1 through 1009.7.4. ~~.Where the *exit discharge* does not include an *accessible route* from an *exit* located on the *level of exit discharge* to a *public way*, an exterior area of assisted rescue shall be provided on the exterior landing in accordance with Sections 1009.7.1 through 1009.7.4.~~

Reason: Section 1009.7 currently requires an exterior area for assisted rescue where the exit discharge does not include an accessible route from the exit to a public way. This requirement is essentially an exception to 1009.2 that requires an accessible means of egress (AMOE) to be continuous to the public way. Also, the exception to Section 1009.6.2 was added to allow an interior area of refuge at the level of exit discharge to act the same as an exterior area of rescue assistance - both provide a protected space where persons with physical disabilities can wait for an assisted rescue by an emergency responder. The exception to 1009.6.2 doesn't specifically say the AMOE does not need an accessible route to the public way, but that is clearly the intent since there would be no other reason to provide such an area of refuge. Also, the commentary to Section 1009.7 discusses both an exterior area for assisted rescue and an interior area of refuge and indicates they both are an option to not providing an AMOE that is continuous to the public way.

To clarify the continuity requirements for an exterior area for assisted rescue and an interior area of refuge at the level of exit discharge, this proposal adds an exception to the continuity requirement in 1009.2 and deletes the implied exception in 1009.7 since it would be redundant.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies the intent of the code with regard to continuity requirements for assisted rescue components of the accessible means of egress, so there will be no cost impact.

E38-24

E39-24

IBC: 1009.2.1; IFC: [BE] 1009.2.1

Proponents: Ali Fattah, City of San Diego Development Services Department, San Diego Area Chapter of ICC (afattah@sandiego.gov)

2024 International Building Code

Revise as follows:

1009.2.1 Elevators required. In *buildings* where an ~~a required~~ *accessible* floor is four or more *stories* above ~~or below~~ a *level of exit discharge,* or where an accessible *occupiable roof* is above a *story* that is three or more *stories* above the *level of exit discharge*, or where an accessible floor is four or more *stories* below a *level of exit discharge*, not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located ~~at or~~ above the *levels of exit discharge*.
2. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a ramp conforming to the provisions of Section 1012.

2024 International Fire Code

Revise as follows:

[BE] 1009.2.1 Elevators required.
In *buildings* where an ~~a required~~ *accessible* floor is four or more *stories* above ~~or below~~ a *level of exit discharge,* or where an accessible *occupiable roof* is above a *story* that is three or more *stories* above the *level of exit discharge*, or where an accessible floor is four or more *stories* below a *level of exit discharge*, not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located ~~at or~~ above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a *ramp* conforming to the provisions of Section 1012.

Reason: The proposed code change intends to add clarity when determining whether accessible means of egress via elevator is required. The code change seeks to accomplish the following objectives:

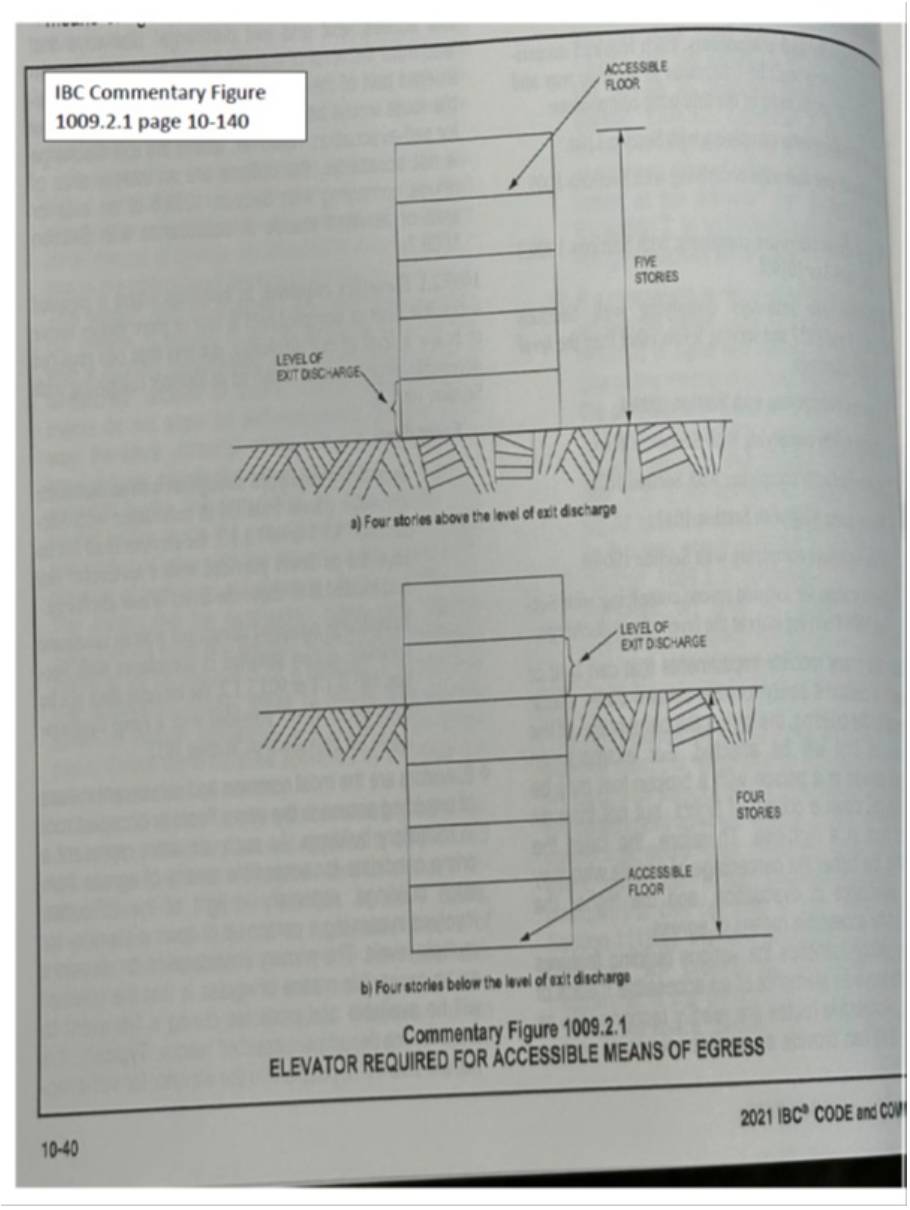
1. Separate determinations for levels above the level of exit discharge from levels below the level of exit discharge. This is consistent with how the IBC commentary depicts code application of the section.
2. Modify exception 1 to exclude the level of exit discharge since Ch 11 requires it to be on an accessible route.

The first proposed change addresses a gray area where a 4-story building that includes 1 story below grade plane can trigger accessible means of egress by elevator or when a building that includes 4 stories below grade plane includes a story above the level of exit discharge thus also triggering accessible means of egress. The IBC commentary includes a figure that appears to guide the code user to consider below grade plane and above grade plane areas separately.

Most buildings include entrances on the level of exit discharge and therefore those levels will be accessible. Additionally accessible means of egress requires accessible spaces to be accessed by at least one accessible means of egress, so it is not clear why a

horizontal exit needs to be located on the level of exit discharge. It is not common practice to include a horizontal exit at that level.

The proposed code change is primarily editorial in nature, and it can be argued that excluding the level of exit discharge is also an editorial code change.



Bibliography: 2021 IBC Code and Commentary volume 1 Figure 1009.2.1 page 10-140

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It can be argued that the cost of construction is reduced since a fire barrier is not required at the level of exit discharge. However, proponent has not seen one required by other Building Officials or review staff.

E39-24

E40-24

IBC: 1009.2.1; IFC: [BE] 1009.2.1

Proponents: Gabriel Levy, incandescence life safety, inc, Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

Revise as follows:

1009.2.1 Elevators required. In *buildings* where a required *accessible* floor is four or more *stories* above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a *story* that is three or more *stories* above the *level of exit discharge*, not less than one required *accessible means of egress* from *stories* other than a *level of exit discharge* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a ramp conforming to the provisions of Section 1012.

2024 International Fire Code

Revise as follows:

[BE] 1009.2.1 Elevators required. In buildings where a required accessible floor is four or more stories above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a story that is three or more stories above the *level of exit discharge* , not less than one required *accessible means of egress*from *stories* other than a *level of exit discharge* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a *ramp* conforming to the provisions of Section 1012.

Reason: The existing code language implies that an elevator is required to serve as an accessible means of egress on a level of exit discharge. This is counterintuitive, as the preferred egress path would be directly to the exterior of the building. The use of a horizontal exit in lieu of an accessible elevator is clarified by this amendment such that a horizontal exit would not be required on a level of exit discharge because the elevator requirement is taken out of the base language.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Any cost impact will be through the user of the code understanding the application and intent when reading the provision the first time. The revisions to the text of the code will not increase or decrease the cost of construction as the technical intent and content of the code remains intact and unaltered.

E41-24

IBC: 1009.2.1; IFC: [BE] 1009.2.1

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1009.2.1 Elevators required.
In *buildings* where a required *accessible* floor is four or more *stories* above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a *story* that is three or more *stories* above the *level of exit discharge* , not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. ~~In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the~~The elevator shall not be required as part of the *accessible means of egress* ~~on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.~~ where the building complies with all of the following:
   1.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
   1.2. All floors above the level of exit discharge are provided with a horizontal exit.
   1.3. Where there is an occupiable roof, the means of egress serving the occupiable roof is provided by interior exit stairways or ramps complying with Section 1023.
2. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a ramp conforming to the provisions of Section 1012.

2024 International Fire Code

Revise as follows:

[BE] 1009.2.1 Elevators required.
In buildings where a required accessible floor is four or more stories above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a story that is three or more stories above the *level of exit discharge* , not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. ~~In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the~~ The elevator shall not be required as part of the *accessible means of egress* ~~on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.~~ where the building complies with all of the following:
   1.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
   1.2. All floors above the level of exit discharge are provided with a horizontal exit.
   1.3. Where there is an occupiable roof, the means of egress serving the occupiable roof is provided by interior exit stairways or ramps complying with Section 1023.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a *ramp* conforming to the provisions of Section 1012.

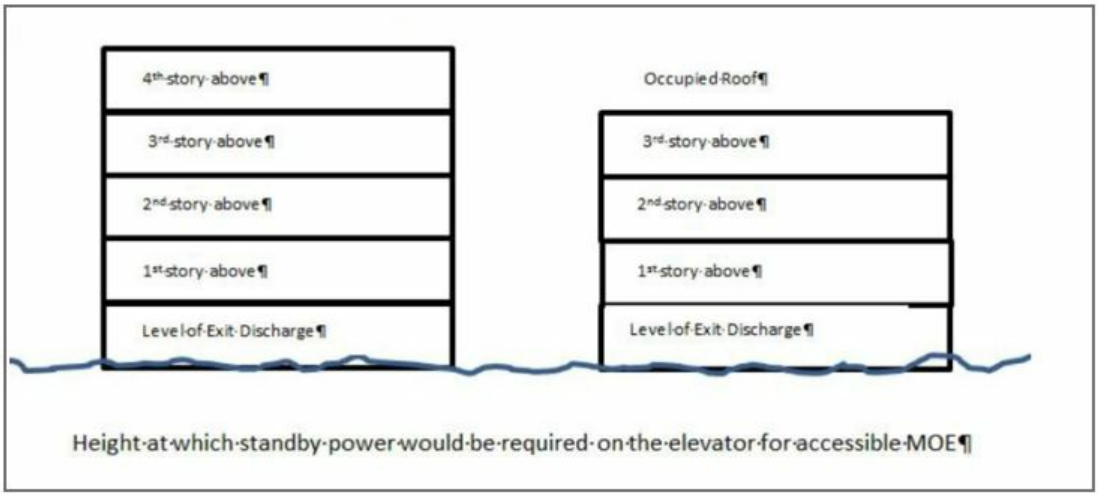
Reason: The intent of this proposal is to address buildings that have an occupiable roof and to allow for those buildings to use the option

of elevators with standby power (required in Section 1009.4) or to allow the use of horizontal exits. The reformatting is for ease of use and clarity. The new requirement for occupiable roofs is addressed in 1.3.

Horizontal exits on floors provide protected areas for people to wait for fire department assisted rescue if they need it.

With the addition of 1.3, people on the occupied roofs would be protected from smoke and fumes by being open to the air. If the people enter directly into enclosed exit stairways, they are protected to the level of exit discharge. These are sprinklered buildings, so no interior areas of refuge are required. The horizontal exits below allow for slower evacuation time, so the fire department can have additional time to assist anyone on the roof. Section 1006.3 considers occupiable roofs as a story for means of egress, so there will always be at least two ways off.

The Egress committee (E31-21) raised some concerns last cycle which this proposal addresses . The concern as to the location of the horizontal exit on the level below the occupied roof is immaterial because the occupants will already be within a protected exit enclosure. Following, there is not a concern of an occupant traveling down to the fire side of a horizontal exit on the floor below with the use of an exit access stairway or ramp.



This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Occupiable roofs were added to Section 1009.2 by E30-18. This clarifies an option for accessible means of egress for building with occupiable roofs.

E41-24

E42-24

IBC: 1009.2.1; IFC: [BE] 1009.2.1

Proponents: Gabriel Levy, incandescence life safety, inc, Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

Revise as follows:

1009.2.1 Elevators required.
In *buildings* where a required *accessible* floor is four or more *stories* above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a *story* that is three or more *stories* above the *level of exit discharge* , not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a ramp, other than vehicle ramps, conforming to the provisions of Section 1012 and providing means of egress between stories

1012.1 Scope.
The provisions of this section shall apply to *ramps* used as a component of a *means of egress*.

Exceptions:

1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1030.
2. Curb ramps shall comply with ICC A117.1.
3. Vehicle ramps in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 where they are not an *accessible* route serving accessible parking spaces, other required accessible elements or part of an *accessible means of egress*.

2024 International Fire Code

Revise as follows:

[BE] 1009.2.1 Elevators required.
In buildings where a required accessible floor is four or more stories above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a story that is three or more stories above the *level of exit discharge* , not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a ramp, other than vehicle ramps, conforming to the provisions of Section 1012 and providing means of egress between stories.

[BE] 1012.1 Scope.

The provisions of this section shall apply to *ramps* used as a component of a *means of egress*.

Exceptions:

1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1030.
2. Curb *ramps* shall comply with ICC A117.1.
3. Vehicle *ramps* in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 where they are not an *accessible route* serving accessible parking spaces, other required accessible elements or part of an *accessible means of egress*.

Reason: A vehicle ramp for pedestrian exit access is not required to meet all ramp requirements, per IBC 1012.1 Exception 3. Although a vehicle ramp can comply with IBC 1012, a ramp without handrails and landings is not an accessible route, it is not intended to serve as an alternative for an elevator with standby power.

The intent of the ramp is to allow occupants to travel to a story with an elevator with standby power or a level of exit discharge.

As Exception 2 is currently written, the code does not explicitly identify that the ramp must travel between stories. A ramp that connects levels on the same story is not intended to replace an accessible means of egress elevator.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Any cost impact will be through the user of the code understanding the application and intent when reading the provision the first time. The revisions to the text of the code will not increase or decrease the cost of construction as the technical intent and content of the code remains intact and unaltered.

E42-24

E43-24

IBC: 1009.2.1, 1012.1; IFC: [BE] 1009.2.1, [BE] 1012.1

Proponents: Ali Fattah, City of San Diego Development Services Department, San Diego Area Chapter of ICC (afattah@sandiego.gov)

2024 International Building Code

Revise as follows:

1009.2.1 Elevators required.
In *buildings* where a required *accessible* floor is four or more *stories* above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a *story* that is three or more *stories* above the *level of exit discharge*, not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a ramp conforming to the provisions of Section 1012.
3. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors of parking garages where an area of refuge complying with Section 1009.6 is provided in each stairway serving an accessible floor.

1012.1 Scope.
The provisions of this section shall apply to *ramps* used as a component of a *means of egress*.

Exceptions:

1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1030.
2. Curb ramps shall comply with ICC A117.1.
3. Vehicle ramps in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 where they are not an *accessible* route ~~serving accessible parking spaces, other required accessible elements~~ or part of an *accessible means of egress* *serving elements or parking spaces required to be accessible*.

2024 International Fire Code

Revise as follows:

[BE] 1009.2.1 Elevators required.
In buildings where a required accessible floor is four or more stories above or below a *level of exit discharge* or where an accessible *occupiable roof* is above a story that is three or more stories above the *level of exit discharge* , not less than one required *accessible means of egress* shall include an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors or *occupiable roofs* provided with a *ramp* conforming to the provisions of Section 1012.

3. In *buildings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the *accessible means of egress* on floors of parking garages where an area of refuge complying with Section 1009.6 is provided in each stairway serving an accessible floor.

[BE] 1012.1 Scope.

The provisions of this section shall apply to *ramps* used as a component of a *means of egress*.

Exceptions:

1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1030.
2. Curb ramps shall comply with ICC A117.1.
3. Vehicle ramps in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 where they are not an *accessible* route ~~serving accessible parking spaces, other required accessible elements~~ or part of an *accessible means of egress* serving elements or parking spaces required to be accessible.

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Reason: The proposed code change addresses a common issue in buildings designed to comply with Section 510.2 where the use of fire walls or fire barriers can exempt elevators from being a required part of the accessible means of egress and the associated standby source of power. It is not practical to bisect a parking garage that is commonly located below the three-hour separation with a fire barrier and associated fire shutters.

This code change provides an option to use a refuge area within a stairway as an alternative. Refuge areas allow for assisted rescue in the event of an emergency and elevators are not operable. We feel that this is a good compromise since the refuge area may be located in one or two basement levels or one or two above grade levels. This part of the code change is not in conflict with Section 1009.3.3 exception 2 and 3 since it is a more specific requirement and is an optional method of compliance to the base requirement. Additionally, the proposed code change only references Section 1009.6 that includes the construction requirements for refuge areas.

Parking garages have sloped floors or ramps so assisted rescue can be through sloped floors without the use of elevators. Additionally building occupants, or wheelchair users using motorized wheelchairs can self-evacuate. It would seem that garages required to be served by an accessible means of egress via elevator should be treated differently since vehicular ramps will be present, and the garages will generally be protected with fire sprinklers. A companion code change to Section 1012.1 also adds a clarification to exception 3 in the ramp section that exempts certain vehicular ramps in parking garages from complying as ramps when they are not an accessible route or a part of an accessible means of egress. This part of the code change rearranges the text a little.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

The cost of fire barriers is approximately $100 per linear foot of wall and the cost of fire shutters is approximately $20,000 each with generally 2 or more shutters required at drive aisles. Standby generators cost $20,000 to install.

The cost of a 42 sq ft refuge area is $12,600, based on $300 per sq ft cost.

Estimated Immediate Cost Impact Justification (methodology and variables):

The construction of fire barriers and including fire shutters or other opening protectives instead of providing standby power for elevators or installing a standby generator powered by natural gas will greatly exceed the cost of space lost due to refuge areas in stairways.

E43-24

E44-24

IBC: 1009.3; IFC: [BE] 1009.3

Proponents: Gene Boecker, CCI, self (geneb@codeconsultants.com); Matt Lescher, CCI, self (mattl@codeconsultants.com); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

Revise as follows:

1009.3 Stairways.
In order to be considered part of an *accessible means of egress*, a *stairway* between *stories* shall comply with ICC A117.1 and Sections 1009.3.1 through 1009.3.3.

Exception: Stairways within dwelling units or sleeping units, other than Accessible dwelling or sleeping unit, shall not be required to comply with ICC A117.1.

2024 International Fire Code

Revise as follows:

[BE] 1009.3 Stairways.
In order to be considered part of an *accessible means of egress*, a *stairway* between *stories* shall comply with ICC A117.1 and Sections 1009.3.1 through 1009.3.3.

Exception: Stairways within dwelling units or sleeping units, other than Accessible dwelling or sleeping unit, shall not be required to comply with ICC A117.1.

Staff Analysis: The next edition of the ICC A117.1 is currently under development. There are several proposals in progress that will effect stairway construction, including changes to the striping requirements for every tread and landing.

Reason: While many of the accessibility related provisions of the A117.1 and ADA Standards have been mainstreamed into the IBC, some have not. The IBC includes provisions for stairs assuming the broad population as a whole. The A117.1 looks at these elements for their unique qualities as they relate to people with limited mobility and limited vision capabilities. The A117.1 standards are based on review of ergonomic data and actual fall and accident events as well as a comparison to other accessibility standards around the world. The A117.1 standard is better equipped to address the needs and concerns for people with disabilities.

As most of the requirements are the same and IBC Section 102.4 states that where conflicts exist between the code and a standard, the code shall prevail, the impact will be largely for the visual contrast at stair nosings. Visual contrast is especially important for people with limited vision and for people who are not functioning to their highest mental capability due to medication, intoxication or medical cognition.

The exception acknowledges the fact that the IBC contains a number of exceptions for stairs within dwelling units; and, that many people will not desire some of the A117.1 requirements for stairs within Type A and Type B units, as well as those not required to be Type A or Type B, since the A117.1 includes requirements for handrail extensions, and contrasting stripes. Since Type A and Type B units are adaptable, it seems reasonable that these elements could be added at a time when the occupant requires such features.

When evaluating the differences between the IBC requirements for stairways and the A117.1 requirements, the following table identifies the similarities and differences. Below each item is a notation about which is more restrictive or contains more criteria for compliance.

AMOE Stairways.

Requirement	IBC	A117.1
Riser Height (same)	4" min – 7" max	4" min – 7" max
Tread depth (same)	11" min	11" min
Open Risers (same)	Not required where stair is part of accessible means of egress.	Not Permitted
Tread surface (same)	Max opening of ½", securely attached, with slope not steeper than 1:48,	Max opening of 1/2", firm, stable, slip resistant and slope not steeper than 1:48
Tread and Riser uniformity (IBC)	Very Specific criteria for how uniformity is measured to adjacent steps and overall	All must be "uniform"
Nosing profile (A117.1)	9/16" max radius, underside at 30 degrees (no language about beveled nosings)	½" radius, ½" bevel, underside at 30 degrees max to vertical
Nosing depth (IBC)	1-1/4" max	1-1/2" max
Landings (IBC)	Specific criteria	No criteria
Visual contrast (A117.1)	Luminescent marking for high-rise buildings.	One of the following: 1. The leading 1 to 2 inches (25 to 51 mm) of every tread and landing, measured horizontally from the leading edge of the nosing, shall consist of a solid color having visual contrast of dark-on-light or light-on-dark from the remainder of the tread. The contrasting marking shall be durable and shall extend from one side of each tread to the other side of each tread. 2. Durable distinctive warning markings required by the adopted building code or ANSI safety standard.
Handrails (A117.1)	Required on both sides with some exceptions for short stairs and inside dwelling units.	Required on both sides, except for dwelling units NOT required to be Accessible.
Wet conditions (same)	Designed not to allow water accumulation.	Designed not to allow water accumulation.
Maxi. rise between landings (IBC)	12 feet vertical	Not addressed

Requirement	IBC	A117.1
Lighting (IBC)	The means of egress illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along exit access stairways, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the stairway is in use.	1. A 1-foot-candle (10.8 lux) minimum illumination at times other than conditions of stair use 2. A 10-foot-candle (108 lux) minimum illumination during conditions of stair use 3. The transition from 1 foot candle (10.8 lux) to 10 foot candle (108 lux) under conditions of stair use shall be permitted to be achieved by automatic, motion sensor-type lighting switches provided the switch controllers comply with all of the following: 3.1 The switch controllers are equipped for fail-safe operation and evaluated for this purpose 3.2 The motion sensor is activated by occupant movement on the stair or stair landings 3.3 The illumination timers are set for a minimum 15-minute duration.
Signage within Stair enclosure (A117.1)	"1023.11 Tactile floor-level signs. Where floor level signs are provided in interior exit stairways and ramps, a floor-level sign identifying the floor level in visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the interior exit stairway and ramp into the corridor."	"Stair level identification signs in raised characters and braille complying with [A117.1] Sections 703.3 and 703.4 shall be located at each floor level landing in all enclosed stairways adjacent to the door leading from the stairwell into the corridor to identify the floor level. The exit door discharging to the outside or to the level of exit discharge shall have a sign with raised characters and braille stating "EXIT.""
Signage at exits (IBC – includes horizontal exits)	"Where exit signs are provided at an area of refuge with direct access to a stairway, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway, a horizontal exit and	"A sign stating EXIT in raised characters and Braille and complying with [A117.1] Sections 703.3 and 703.4 shall be provided adjacent to each door to an area of refuge

Requirement	IBC	A117.1
	the exit discharge, a sign stating "EXIT" in visual characters, raised characters and braille and complying with ICC A117.1 shall be provided."	providing direct access to a stairway, an exterior area for assisted rescue, an exit stairway, an exit ramp, an exit passageway and the exit discharge."

Bibliography: IBC - 2024

ICC A117.1 - 2017, Supplement

Cost Impact: Increase

Estimated Immediate Cost Impact:

The additional material cost to adding a stripe to the tread can be as little as $0.02 is it involves paint or $0.70 per tread for adhesive-type anti-slip tape applications. For a 4 story building with two exit stairways, the anti-slip application would increase the material cost by less than $100 for the entire project.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost would be minimal. Most of the differences are in the details which would not affect cost. The only item which would be a cost increase is the visual contrast marking. In many facilities, this is already installed for general safety reasons and is therefore no cost at all.

Estimated Life Cycle Cost Impact:

Depending on the material used the life cycle costs could be $0 or an estimated $100 every 6-10 years.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

Variables include the type of materials originally used for contrast and the types of materials used for maintaining the contrasting stripes as well as teh frequency of maintenance - also dependent on the materials selected.

E44-24

E45-24

IBC: 1010.1.1 (New), 1010.1.1, 1010.1.1.1.1 (New), 1010.1.1.1.2 (New), 1010.1.1.1.3 (New), 1010.1.1.2 (New), 1010.1.1.1; IFC: 1010.1.1 (New), [BE] 1010.1.1, 1010.1.1.1.1 (New), 1010.1.1.1.2 (New), 1010.1.1.1.3 (New), 1010.1.1.2 (New), [BE] 1010.1.1.1

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Add new text as follows:

1010.1.1 Size of doors. Doors in the means of egress shall comply with the minimum clear opening width and minimum height requirements of Sections 1010.1.1.1 and 1010.1.1.2.

Revise as follows:

~~**1010.1.1**~~**1010.1.1.1 ~~Size of doors~~ Minimum width.**
The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a ~~minimum~~ clear opening width of not less than 32 inches (813 mm). ~~The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm).~~ In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a ~~minimum~~ clear opening width of not less than $41\frac{1}{2}$ inches (1054 mm). ~~The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).~~

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum clear opening width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a ~~minimum~~ clear opening width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. ~~Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).~~
5. ~~In *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).~~
6. ~~4.~~ In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
7. ~~5.~~ Door openings required to be accessible within *Type B units* intended for user passage shall have a ~~minimum~~ clear opening width of not less than 31.75 inches (806 mm).
8. ~~6.~~ Doors serving sauna compartments, toilet compartments or dressing, fitting or changing compartments that are not required to be accessible shall have a ~~minimum~~ clear opening width of not less than 20 inches (508 mm).
9. ~~7.~~ Doors serving shower compartments shall comply with Section 421.4.2 of the *International Plumbing Code*.

Add new text as follows:

1010.1.1.1.1 Clear opening width measurement. The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad).

1010.1.1.1.2 Two door leaves. Where a minimum clear opening width is required and a door opening includes two door leaves without a

mullion, one leaf shall provide that required minimum clear opening width.

1010.1.1.1.3 Opposite-swinging doors. Where a pair of opposite-swinging doors are in the means of egress, each door required to swing in the direction of egress travel shall provide the required minimum clear opening width.

1010.1.1.2 Minimum height. The clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. Door openings within a dwelling unit or sleeping unit shall have a clear opening height of not less than 78 inches (1981 mm).
2. In dwelling and sleeping units that are not required to be Accessible, Type A or Type B units, exterior door openings other than the required exit door shall have a clear opening height of not less than 76 inches (1930 mm).

Revise as follows:

~~**1010.1.1.1**~~**1010.1.1.3 Projections into clear opening.**
There shall not be projections into the required clear opening width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers, *overhead doorstops*, frame stops, power door operators, and electromagnetic door locks shall project into the door opening height not lower than 78 inches (1980 mm) above the floor.

2024 International Fire Code

Add new text as follows:

1010.1.1 Size of doors. Doors in the means of egress shall comply with the minimum clear opening width and minimum height requirements of Sections 1010.1.1.1 and 1010.1.1.2.

Revise as follows:

[BE] ~~**1010.1.1**~~**1010.1.1.1** ~~**Size of doors**~~**Minimum width.**
The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a ~~minimum~~ clear opening width of not less than 32 inches (813 mm). ~~The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm).~~ In Group I-2, doors serving as *means of egress* doors where used for the movement of beds shall provide a ~~minimum~~ clear opening width of not less than $41\frac{1}{2}$ inches (1054 mm). ~~The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).~~

Exceptions:

1. In Group R-2 and R-3 *dwelling* and *sleeping units* that are not required to be an Accessible unit, Type A unit or Type B unit, the minimum clear opening width shall not apply to door openings that are not part of the required *means of egress*.
2. Group I-3 door openings to resident *sleeping units* that are not required to be an Accessible unit shall have a ~~minimum~~ clear opening width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. ~~Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).~~
5. ~~In *dwelling* and *sleeping units* that are not required to be Accessible, Type A or Type B units, exterior door openings, other than the required exit door, shall have a minimum clear opening height of 76 inches (1930 mm).~~

~~6.~~4. In Groups I-1, R-2, R-3 and R-4, in dwelling and *sleeping units* that are not required to be Accessible, Type A or Type B units, the minimum clear opening widths shall not apply to interior egress doors.

~~7.~~5. Door openings required to be *accessible* within Type B units intended for user passage shall have a ~~minimum~~ clear opening width of not less than 31.75 inches (806 mm).

~~8.~~6. Doors serving sauna compartments, toilet compartments or dressing, fitting or changing rooms compartments that are not required to be accessible shall have a ~~minimum~~ clear opening width of not less than 20 inches (508 mm).

~~9.~~7. Doors serving shower compartments shall comply with Section 421.4.2 of the *International Plumbing Code*.

Add new text as follows:

1010.1.1.1.1 Clear opening width measurement. The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad).

1010.1.1.1.2 Two door leaves. Where a minimum clear opening width is required and a door opening includes two door leaves without a mullion, one leaf shall provide that required minimum clear opening width.

1010.1.1.1.3 Opposite-swinging doors. Where a pair of opposite-swinging doors are in the means of egress, each door required to swing in the direction of egress travel shall provide the required minimum clear opening width.

1010.1.1.2 Minimum height. The clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. Door openings within a dwelling unit or sleeping unit shall have a clear opening height of not less than 78 inches (1981 mm).
2. In dwelling and sleeping units that are not required to be Accessible, Type A or Type B units, exterior door openings other than the required exit door shall have a clear opening height of not less than 76 inches (1930 mm).

Revise as follows:

[BE] ~~1010.1.1.1~~1010.1.1.3 Projections into clear opening.
There shall not be projections into the required clear opening width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers, overhead doorstops, frame stops, power door operators, and electromagnetic door locks shall project into the door opening height not lower than 78 inches (1980 mm) above the floor.

Reason: This proposal editorially separates door size provisions into minimum width requirements (and related exceptions) from minimum height requirements (and related exceptions). All current requirements are retained, but many are relocated.

In addition, in several locations phrasing was revised from “minimum clear opening width of” to “clear opening width of not less than” for editorial consistency within the code. And, a few other editorial adjustments were made with the text.

Also, this proposal adds provisions for where a pair of opposite-swinging doors are in the means of egress in proposed new section 1010.1.1.1.3. Where the occupant load is such that doors are required to swing in the direction of egress travel, the code currently does not make it clear that each door which is required to swing in the direction of egress travel (of the pair of opposite-swinging doors) is required to meet the required minimum clear opening width.

This new section (1010.1.1.1.3) clearly expresses what we believe is the intent of the code, but this may be considered a technical revision. If what’s proposed in 1010.1.1.1.3 is the intent of the code, there would be no increase in the cost of construction. On the other hand, in situations where doors are required to swing in the direction of egress travel, if the intent of the code is to allow the door which swings against egress travel to be included in measuring the clear width provided by the pair of opposite-swinging doors, then this proposed new section may increase the cost of construction. But, we don’t believe the latter situation reflects the intent of the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There should be not increase or decrease in the cost of construction.

The proposed new section 1010.1.1.1.3 is consistent with the intent of the code. The other proposed revisions are intended to be editorial.

E45-24

E46-24

IBC: 1010.1.2.1; IFC: [BE] 1010.1.2.1

Proponents: Ray Steadward, Town of Enfield CT, CT Code Development (rsteadward@enfield.org)

2024 International Building Code

Revise as follows:

1010.1.2.1 Direction of swing. Side-hinged swinging doors, pivoted doors and balanced doors shall swing in the direction of egress travel where serving a room or area under any of the following conditions:

1. ~~containing~~ Containing an occupant load ~~of 50~~ greater than 49 ~~or more persons or~~.
2. More than one exit access doorway is required.
3. Group H occupancy.

2024 International Fire Code

Revise as follows:

[BE] 1010.1.2.1 Direction of swing.
Side-hinged swinging doors, pivoted doors and balanced doors shall swing in the direction of egress travel where serving a room or area under any of the following conditions:

1. ~~containing~~ Containing an occupant load ~~of 50~~ greater than 49 ~~or more persons or~~.
2. More than one exit access doorway is required.
3. Group H occupancy.

Reason: Changing the number from 50 occupants to 49 stays consistent with other sections and tables within the IBC. Adding the stipulation when more than one exit access doorway is required provides clarity. There are situations that the occupant load of a room or space does not exceed 49 people, but the common path of travel distance is exceeded, resulting in additional exit access doorway(s) to be added. When more than one exit access doorway is required, exit signs are required and occupants will try and push open a door in an emergency.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

At most it adjusts door swings of doors and should have no cost impact.

E47-24

IBC: 1010.1.2.1; IFC: [BE] 1010.1.2.1

Proponents: Peter Zvingilas, State of Connecticut, SECTBO (zvinpete@gmail.com)

2024 International Building Code

Revise as follows:

1010.1.2.1 Direction of swing.
Side-hinged swinging doors, pivoted doors and *balanced doors* shall swing in the direction of egress travel where serving a room or area ~~containing an *occupant load* of 50 or more *persons* or a Group H occupancy.~~
under any of the following conditions:

1. Containing an occupant load greater than 49.
2. More than one exit access doorway required.
3. Group H occupancy.

2024 International Fire Code

Revise as follows:

[BE] 1010.1.2.1 Direction of swing.
Side-hinged swinging doors, pivoted doors and *balanced doors* shall swing in the direction of egress travel where serving a room or area ~~containing an *occupant load* of 50 or more *persons* or a Group H occupancy.~~
under any of the following conditions:

1. Containing an occupant load greater than 49.
2. More than one exit access doorway required.
3. Group H occupancy.

Reason: Changing the number from 50 occupants to 49 stays consistent with other sections and tables within the IBC. Adding the stipulation when more than one exit access doorway is required provides clarity. There are situations that the occupant load of a room or space does not exceed 49 people, but the common path of travel distance exceeded, resulting in additional exit access doorway(s) to be added. When more than one exit access doorway is required, exit signs are required and occupants will try and push open a door in an emergency.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is clarifying a section to read consistent with other sections of similar language.

E48-24

IBC: SECTION 202 (New), 1010.1.4, 1010.1.6, 1011.5.5.2, 1011.6, 1011.8, 1011.14, 1027.3; IFC: SECTION 202 (New), [BE] 1010.1.4, [BE] 1010.1.6, [BE] 1011.5.5.2, [BE] 1011.6, [BE] 1011.8, [BE] 1011.14, [BE] 1027.3

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Add new definition as follows:

LANDING. The portion of a walking surface required for direct access to or from an adjacent, door, stair, flight of stairs, ramp run, or elevator.

Revise as follows:

1010.1.4 Floor elevation.
There shall be a ~~floor or~~ landing on each side of a door. Such ~~floor or~~ landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

Exceptions:

1. At doors serving individual *dwelling units* or *sleeping units* in Groups R-2 and R-3, a door is permitted to open at the top step of an interior *flight* of stairs, provided that the door does not swing over the top step.
2. At exterior doors serving Groups F, H, R-2 and S and where such doors are not part of an *accessible route*, the landing at an exterior door shall not be more than 7 inches (178 mm) below the landing on the egress side of the door, provided that the door, other than an exterior storm or screen door, does not swing over the landing.
3. At exterior doors serving Group U and individual *dwelling units* and *sleeping units* in Groups R-2 and R-3, and where such units are not required to be *Accessible units*, *Type A units* or *Type B units*, the landing at an exterior doorway shall be not more than $7\frac{3}{4}$ inches (197 mm) below the landing on the egress side of the door. Such doors, including storm or screen doors, shall be permitted to swing over either landing.
4. Variations in elevation due to differences in finish materials, but not more than $\frac{1}{2}$ inch (12.7 mm).
5. Exterior decks, patios or balconies that are part of Type B *dwelling units* or *sleeping units*, that have impervious surfaces and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the *dwelling unit* or *sleeping unit*.
6. Doors serving equipment spaces not required to be *accessible* in accordance with Section 1103.2.9 and serving an *occupant load* of five or less shall be permitted to have a landing on one side to be not more than 7 inches (178 mm) above or below the landing on the egress side of the door.

1010.1.6 Thresholds.
Thresholds at doorways shall not exceed $\frac{3}{4}$ inch (19.1 mm) in height above the ~~finished floor or~~ landing for sliding doors serving *dwelling units* or $\frac{1}{2}$ inch (12.7 mm) above the ~~finished floor or~~ landing for other doors. Raised thresholds and ~~floor level~~ changes of level greater than $\frac{1}{4}$ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to $7^3/_4$ inches (197 mm) in height if all of the following apply:
   1.1. The door is not part of the required *means of egress*.
   1.2. The door is not part of an *accessible route* as required by Chapter 11.
   1.3. The door is not part of an *Accessible unit*, *Type A unit* or *Type B unit*.

2. In *Type B units*, where Exception 5 to Section 1010.1.4 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed $4^3/_4$ inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or $4^1/_2$ inches (114 mm) above the exterior deck, patio or balcony for other doors.

1011.5.5.2 Nosing projection uniformity. Nosing projections shall be of uniform size, including the projection~~s~~ of the *nosings* of the ~~floor or~~ landing at the top of a *flight*.

1011.6 Stairway landings.
There shall be a ~~floor or~~ landing at the top and bottom of each *stairway*. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of *stairways* served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the *stairway* or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where *wheelchair spaces* are required on the *stairway* landing in accordance with Section 1009.6.3, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*.

Exceptions:
1. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1030.
2. Where curved *stairways* of constant radius have intermediate landings, the landing depth shall be measured horizontally between the intersection of the walkline of the lower *flight* at the landing *nosing* and the intersection of the walkline of the upper *flight* at the *nosing* of the lowest tread of the upper *flight*.
3. Where a landing turns 90 degrees (1.57 rad) or more, the minimum landing depth in accordance with this section shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the *flight* served.

1011.8 Vertical rise. A *flight* of *stairs* shall not have a vertical rise greater than 12 feet (3658 mm) between ~~floor levels or~~ landings.

Exception: *Spiral stairways* used as a *means of egress* from *technical production areas*.

1011.14 Alternating tread devices.
Alternating tread devices are limited to an element of a *means of egress* in *buildings* of Groups F, H and S from a *mezzanine* not more than 250 square feet (23 m^2) in area and that serves not more than five occupants; in *buildings* of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m^2) in area and for access to unoccupiable roofs. *Alternating tread devices* used as a *means of egress* shall not have a rise greater than 20 feet (6096 mm) between ~~floor levels or~~ landings.

1027.3 Open side. *Exterior exit stairways* and *ramps* serving as an element of a required *means of egress* shall be open on not less than one side, except for required structural columns, beams, *handrails* and *guards*. An open side shall have not less than 35 square feet (3.3 m^2) of aggregate open area adjacent to ~~each floor level and~~ the level of each ~~intermediate~~ landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

2024 International Fire Code

Add new definition as follows:

LANDING. The portion of a walking surface required for direct access to or from an adjacent, door, stair, flight of stairs, ramp run, or

elevator.

Revise as follows:

[BE] 1010.1.4 Floor elevation.

There shall be a ~~floor or~~ landing on each side of a door. Such ~~floor or~~ landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

Exceptions:

1. At doors serving individual *dwelling units* or *sleeping units* in Groups R-2 and R-3, a door is permitted to open at the top step of an interior *flight* of stairs, provided that the door does not swing over the top step.
2. At exterior doors serving Groups F, H, R-2 and S and where such doors are not part of an *accessible route*, the landing at an exterior door shall be not more than 7 inches (178 mm) below the landing on the egress side of the door, provided that the door, other than an exterior storm or screen door, does not swing over the landing.
3. At exterior doors serving Group U and individual *dwelling units* and *sleeping units* in Groups R-2 and R-3, and where such units are not required to be Accessible units, Type A units or Type B units, the landing at an exterior doorway shall be not more than $7^3/_4$ inches (197 mm) below the landing on the egress side of the door. Such doors, including storm or screen doors, shall be permitted to swing over either landing.
4. Variations in elevation due to differences in finish materials, but not more than $^1/_2$ inch (12.7 mm).
5. Exterior decks, patios or balconies that are part of Type B *dwelling units* or *sleeping units*, that have impervious surfaces and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the *dwelling unit* or *sleeping unit*.
6. Doors serving equipment spaces not required to be accessible in accordance with Section 1103.2.9 of the International Building Code and serving an *occupant load* of five or less shall be permitted to have a landing on one side to be not more than 7 inches (178 mm) above or below the landing on the egress side of the door.

[BE] 1010.1.6 Thresholds.

Thresholds at doorways shall not exceed $^3/_4$ inch (19.1 mm) in height above the ~~finished floor or~~ landing for sliding doors serving *dwelling units* or $^1/_2$ inch (12.7 mm) above the ~~finished floor or~~ landing for other doors. Raised thresholds and ~~floor level~~ changes of level greater than $^1/_4$ inch (6.4 mm) at doorways shall be beveled with a slope not greater than 1 unit vertical in 2 units horizontal (50-percent slope).

Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to $7^3/_4$ inches (197 mm) in height if all of the following apply:
   1.1. The door is not part of the required *means of egress*.
   1.2. The door is not part of an *accessible route* as required by Chapter 11 of the International Building Code.
   1.3. The door is not part of an accessible unit, Type A unit or Type B unit.
2. In Type B units, where Exception 5 to Section 1010.1.4 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed $4^3/_4$ inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or $4^1/_2$ inches (114 mm) above the exterior deck, patio or balcony for other doors.

[BE] 1011.5.5.2 Nosing projection uniformity.

Nosing projections shall be of uniform size, including the projections of the *nosings* of the ~~floor or~~ landing at the top of a *flight*.

[BE] 1011.6 Stairway landings.

There shall be a ~~floor or~~ landing at the top and bottom of each *stairway*. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of *stairways* served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the *stairway* or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not

reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where wheelchair spaces are required on the stairway landing in accordance with Section 1009.6.3, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exceptions:

1. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1030.
2. Where curved *stairways* of constant radius have intermediate landings, the landing depth shall be measured horizontally between the intersection of the walkline of the lower *flight* at the landing *nosing*and the intersection of the walkline of the upper *flight* at the *nosing*of the lowest tread of the upper *flight*.
3. Where a landing turns 90 degrees (1.57 rad) or more, the minimum landing depth in accordance with this section shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the *flight* served.

[BE] 1011.8 Vertical rise. A *flight* of *stairs* shall not have a vertical rise greater than 12 feet (3658 mm) between ~~floor levels or~~ landings.

Exception: *Spiral stairways* used as a *means of egress* from technical production areas.

[BE] 1011.14 Alternating tread devices. *Alternating tread devices* are limited to an element of a *means of egress* in buildings of Groups F, H and S from a *mezzanine* not more than 250 square feet (23 m^2) in area and that serves not more than five occupants; in buildings of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m^2) in area and for access to unoccupiable roofs. *Alternating tread devices* used as a *means of egress* shall not have a rise greater than 20 feet (6096 mm) between ~~floor levels or~~ landings.

[BE] 1027.3 Open side. *Exterior exit stairways* and *ramps* serving as an element of a required *means of egress* shall be open on not less than one side, except for required structural columns, beams, *handrails* and guards. An open side shall have not less than 35 square feet (3.3 m^2) of aggregate open area adjacent to ~~each floor level and~~ the level of each ~~intermediate~~ landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

Reason: What is the difference between a landing and a floor? There is clearly a difference that is not understood. An entire floor is not a landing, but the code uses the term “floor-or-landing” as if they are the same. In other instances, such as in **1027.3 Open side**, the two terms used confusingly allow the required open side to be located anywhere on the floor level as opposed to at the landing, as if they might be considered to be uniquely different locations. The confused use of the terms interchangeably is due to the lack of a definition for either floor or landing.

Is it a "landing", a "floor", or is it a "floor-or-landing"?

A landing is but a portion of a floor. The attribute of size is not addressed in dictionaries and this alone is justification for a unique definition in the code. A landing may not be a floor at all if it is not at a floor level but only located between flights or at a mezzanine. If it is a landing, the current code does not require it between flights. Landings are only required at the top and bottom of stairways. But that is an issue we will discuss in a separate code change related to the definition of stairway.

If it is a deck or patio connected to the structure, is it a floor or landing? Clearly only enough area is needed to safely access or depart from the door or flight of stairs. The code, however, provides an option for a floor of indefinite size though only a landing is needed. An entire floor is not necessary to enter or exit a stairway. If a floor is provided instead of a landing, is it limited to the size of a landing or what portion of the floor is the landing? This same circular rhetoric could be applied to landings at elevators as well.

How big is a floor or should I ask is there a need to describe the limits of a floor's size? If you could define "floor", it would likely not be in terms of its size? A landing is much different. The code specifies landing sizes throughout the code, albeit, sometimes indirectly as related to egress capacity. This alone makes a landing uniquely different from a floor.

The limit of a landing’s size is what defines where the stairway ends and where a floor begins. This is important because the width, depth, and headroom of landings are uniquely regulated within **1011 Stairways**. The suggested definition clearly identifies the unique quality of landing size as *"The portion of a walking surface required..."* and quantifies the landing as the amount of space needed to perform the functions of a landing, e.g., change in direction, change in stride, rest, or simply provide the area required to enter or exit a doorway, stair, ramp or elevator.

In addition to the definition, we have included comprehensive changes to all the requirements with instances of confusing reference to the terms floor or landing based upon a search of the IBC. Each has been corrected by deleting floor where "floor or landing" has been used and any related contextual changes necessary. Each of these necessary changes to the code are very clear examples of how the suggested definition for landing can simplify code language and provide for consistent interpretation.

In an effort to correlate with the A117.1 standard the proposed definition has been submitted and approved in the proceedings of the A117.1 committee for inclusion in the final ballot of the ICC A117.1 Standard expected in 2024. The text is the same except that "door" is deleted as landings at doors are not mentioned in A117.1.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a new definition and editorial changed needed to correlate with other ICC defined terminology. The changes have no material affect upon the cost of construction.

E48-24

E49-24

IBC: 1010.1.4, 1010.1.6; IFC: [BE] 1010.1.4, [BE] 1010.1.6

Proponents: Jennifer Hatfield, J. Hatfield & Associates, Fenestration & Glazing Industry Alliance (formerly AAMA) (jen@jhatfieldandassociates.com)

2024 International Building Code

Revise as follows:

1010.1.4 Floor elevation.

There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

Exceptions:

1. At doors serving individual *dwelling units* or *sleeping units* in Groups R-2 and R-3, a door is permitted to open at the top step of an interior *flight* of stairs, provided that the door does not swing over the top step.
2. At exterior doors serving Groups F, H, R-2 and S and where such doors are not part of an *accessible route*, the landing at an exterior door shall not be more than 7 inches (178 mm) below the landing on the egress side of the door, provided that the door, other than an exterior storm or screen door, does not swing over the landing.
3. At exterior doors serving Group U and individual *dwelling units* and *sleeping units* in Groups R-2 and R-3, and where such units are not required to be *Accessible units*, *Type A units* or *Type B units*, the landing at an exterior doorway shall be not more than $7^3/_4$ inches (197 mm) below the landing on the egress side of the door. Such doors, including storm or screen doors, shall be permitted to swing over either landing.
4. Variations in elevation due to differences in finish materials, but not more than $^1/_2$ inch (12.7 mm).
5. Exterior decks, patios or balconies that are part of Type B dwelling units or sleeping units, that have impervious surfaces shall be permitted for the exterior surface to be ~~and that are~~ not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit or *sleeping unit*. or allowed at a height necessary to comply with the water resistance requirements of Section 1709.5, whichever is greater.
6. Doors serving equipment spaces not required to be *accessible* in accordance with Section 1103.2.9 and serving an *occupant load* of five or less shall be permitted to have a landing on one side to be not more than 7 inches (178 mm) above or below the landing on the egress side of the door.

1010.1.6 Thresholds.

Thresholds at doorways shall not exceed $^3/_4$ inch (19.1 mm) in height above the finished floor or landing for sliding doors serving *dwelling units* or $^1/_2$ inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than $^1/_4$ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to $7^3/_4$ inches (197 mm) in height if all of the following apply:
   1.1. The door is not part of the required *means of egress*.
   1.2. The door is not part of an *accessible route* as required by Chapter 11.
   1.3. The door is not part of an *Accessible unit*, *Type A unit* or *Type B unit*.

2. In *Type B units*, where Exception 5 to Section 1010.1.4 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed 43/4 inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or 41/2 inches (114 mm) above the exterior deck, patio or balcony for other doors or allowed at a height necessary to comply with the water resistance requirements of Section 1709.5, whichever is greater.

2024 International Fire Code

Revise as follows:

[BE] 1010.1.4 Floor elevation.

There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

Exceptions:

1. At doors serving individual *dwelling units* or *sleeping units* in Groups R-2 and R-3, a door is permitted to open at the top step of an interior *flight* of stairs, provided that the door does not swing over the top step.
2. At exterior doors serving Groups F, H, R-2 and S and where such doors are not part of an *accessible route*, the landing at an exterior door shall be not more than 7 inches (178 mm) below the landing on the egress side of the door, provided that the door, other than an exterior storm or screen door, does not swing over the landing.
3. At exterior doors serving Group U and individual *dwelling units* and *sleeping units* in Groups R-2 and R-3, and where such units are not required to be Accessible units, Type A units or Type B units, the landing at an exterior doorway shall be not more than $7^3/_4$ inches (197 mm) below the landing on the egress side of the door. Such doors, including storm or screen doors, shall be permitted to swing over either landing.
4. Variations in elevation due to differences in finish materials, but not more than $^1/_2$ inch (12.7 mm).
5. Exterior decks, patios or balconies that are part of Type B dwelling units or sleeping units, that have impervious surfaces shall be permitted for the exterior surface to be ~~and that are~~ not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit or *sleeping unit*. or allowed at a height necessary to comply with the water resistance requirements of Section 1709.5 of the *International Building Code*, whichever is greater.
6. Doors serving equipment spaces not required to be accessible in accordance with Section 1103.2.9 of the International Building Code and serving an *occupant load* of five or less shall be permitted to have a landing on one side to be not more than 7 inches (178 mm) above or below the landing on the egress side of the door.

[BE] 1010.1.6 Thresholds.

Thresholds at doorways shall not exceed $^3/_4$ inch (19.1 mm) in height above the finished floor or landing for sliding doors serving *dwelling units* or $^1/_2$ inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than $^1/_4$ inch (6.4 mm) at doorways shall be beveled with a slope not greater than 1 unit vertical in 2 units horizontal (50-percent slope).

Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to $7^3/_4$ inches (197 mm) in height if all of the following apply:
   1.1. The door is not part of the required *means of egress*.
   1.2. The door is not part of an *accessible route* as required by Chapter 11 of the International Building Code.
   1.3. The door is not part of an accessible unit, Type A unit or Type B unit.
2. In *Type B units*, where Exception 5 to Section 1010.1.4 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed 43/4 inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or 41/2 inches (114 mm) above the exterior deck, patio or balcony for other doors or allowed at a height necessary to comply with the water resistance requirements of Section 1709.5 of the *International Building Code*, whichever is greater..

Reason: This proposal is intended to provide needed clarity in Section 1010.1.4 Exception 5 and Section 1010.1.6 Exception 2 for decks on Type B units, as it is confusing as currently written. The revised language simply clarifies that a higher door threshold may be allowed as required to meet the water testing requirements found in Section 1709.5 of the IBC.

This change is similar to the clarification made in the current Florida Building Code.

Bibliography: Section 1010.1.6 of the 2023 Florida Building Code, Building, Eighth Edition

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is a clarification of allowances required for step downs and thresholds at decks when it comes to door thresholds and water testing requirements.

E49-24

E50-24

IBC: 1010.2.1, 1010.2.4; IFC: [BE] 1010.2.1, [BE] 1010.2.4

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.2.1 Unlatching.
The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all locking devices. locking devices. *Manual bolts* are not permitted.

Exceptions:

1. Places of detention or restraint in Group I-3 occupancies.
2. Doors with *manual bolts*, *automatic flush bolts* and *constant latching bolts* as permitted by Section 1010.2.4, Item 4.
3. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.

1010.2.4 Locks and latches.
Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint in Group I-3 occupancies.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of *persons* receiving care require containment or where *persons* receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In *buildings* in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided that:
   3.1. The doors are the main exterior doors to the *building*, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. *Manual bolts*, automatic flush bolts and *constant latching bolts* on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, *panic hardware*, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or *sleeping units* of Group R occupancies and equipped with a night latch, *dead bolt* or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the *building* from the roof.

8. Other than egress *courts*, where occupants must egress from an exterior space through the *building* for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling* or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

2024 International Fire Code

Revise as follows:

[BE] 1010.2.1 Unlatching.
The unlatching of any door orleaf for egress shall require not more than one motion ina single linear or rotational direction to release all latching and all locking devices. locking devices. Manual bolts are not permitted.

Exceptions:
1. Places of detention or restraint in Group I-3 occupancies.
2. Doors with manual bolts, automatic flush bolts and constant latching bolts as permitted by Section 1010.2.4, Item 4.
3. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.

[BE] 1010.2.4 Locks and latches.
Locks and latches shall be permitted to prevent operation of doors where any of the following exist:
1. Places of detention or restraint in Group I-3 occupancies.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.

3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided that:
   3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: "THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED." The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *fire code official* for due cause.
4. Manual bolts, automatic flush bolts and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or sleeping units of Group R occupancies and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
6. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed* fire door test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.
8. Other than *egress courts*, where occupants must egress from an exterior space through the building for *means of egress*, *exit access* doors shall be permitted to be equipped with an *approved* locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required *exit access* door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each *exit access* door to determine if there are occupants using the outdoor area.
   8.5. A readily visible durable sign shall be posted on the interior side on or adjacent to each locked required *exit access* door serving the exterior area stating: "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling*or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less, serving a private office space.

Reason: The revisions of this proposal are intended to be editorial and to better communicate the intent of the code.
Our understanding is Exception 1 is intended to apply to Occupancy Group I-3, where security measures are not under the occupants' control.
In Occupancy Group I-3, the unlatching of a door would be expected to require more than on motion.
These are the only locations in the IBC and IFC where the phrase "detention or restraint" is used.
The specific needs for Groups I-1 and I-2 for health care clinical needs of care recipients are addressed in 1010.2.4 Item 2 (locks and latches), 1010.2.13.1 Item 6 exception (delayed egress locking systems), and 1010.2.14 Item 8 exception 1 (controlled egress locking systems).

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Should not increase or decrease the cost of construction.
Code change proposal is editorial clarification of the intent of the code for places of detention and restraint.

E50-24

E51-24

IBC: 1010.2.1; IFC: [BE] 1010.2.1

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1010.2.1 Unlatching.
The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all locking devices. locking devices. *Manual bolts* are not permitted.

Exceptions:

1. Places of detention or restraint.
2. Doors with *manual bolts*, *automatic flush bolts* and *constant latching bolts* as permitted by Section 1010.2.4, Item 4.
3. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.
4. Doors serving individual toilet or bathing room or compartment.

2024 International Fire Code

Revise as follows:

[BE] 1010.2.1 Unlatching.
The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all locking devices. locking devices. Manual bolts are not permitted.

Exceptions:

1. Places of detention or restraint.
2. Doors with manual bolts, automatic flush bolts and constant latching bolts as permitted by Section 1010.2.4, Item 4.
3. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.
4. Doors serving individual toilet or bathing room or compartment.

Reason: Many single user toilet or bathing rooms have an additional latching mechanism that is used for privacy. With the increased usage of gender-neutral toilet rooms, these locking mechanisms will be increasing in popularity. These indicators require an additional motion to open the door as they must be manually engaged by the user within the toilet/bathing room. Since these rooms are limited to the number of occupants, usually one or in the case of an assisted use toilet/bathing room, a care giver, or other family members, and privacy is a concern in many of these cases, the use of an additional motion to exit the toilet/dressing room should be permitted. Shown below are examples of what these devices look like and what operation must happen in order to disengage the privacy lock.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an option for toilet or bathing room locking, not a requirement, so there is no change in construction requirements.

E51-24

E52-24

IBC: 1010.2.2, 1010.2.3; IFC: [BE] 1010.2.2, [BE] 1010.2.3

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.2.2 Hardware.
Door handles, pulls, latches, locks and other operating devices ~~on~~ of doors required to be *accessible* by Chapter 11 shall not require tight grasping, tight pinching or twisting of the wrist to operate.

1010.2.3 Hardware height.
Door handles, pulls, latches, locks and other operating devices of doors shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor.

Exceptions:

1. Locks used only for security purposes and not used for normal operation are permitted at any height.
2. ~~Where~~ The height of operating devices of locks and latches of doors and gates in barriers required by the International Swimming Pool and Spa Code shall comply with Section 305.3 of the International Swimming Pool and Spa Code. ~~requires restricting access to a pool, spa or hot tub, and where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such a mechanism shall be located above the finished floor or ground surface not less than 52 inches (1219 mm) and not greater than 54 inches (1370 mm), provided that the latch release mechanism is not a self-locking type such as where the lock is operated by means of a key, electronic opener or the entry of a combination into an integral combination lock.~~

2024 International Fire Code

Revise as follows:

[BE] 1010.2.2 Hardware.
Door handles, pulls, latches, locks and other operating devices ~~on~~ of doors required to be accessible by Chapter 11 of the International Building Code shall not require tight grasping, tight pinching or twisting of the wrist to operate.

[BE] 1010.2.3 Hardware height.
Door handles, pulls, latches, locks and other operating devices of doors shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor.

Exceptions:

1. Locks used only for security purposes and not used for normal operation are permitted at any height.
2. ~~Where~~ The height of operating devices of locks and latches of doors and gates in barriers required by the International Swimming Pool and Spa Code shall comply with Section 305.3 of the International Swimming Pool and Spa Code. ~~requires restricting access to a pool, spa or hot tub, and where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such a mechanism shall be located above the finished floor or ground surface, not less than 52 inches (1219 mm) and not greater than 54 inches (1370 mm), provided that the latch release mechanism is not a self-locking type such as where the lock is operated by means of a key, electronic opener or the entry of a combination into an integral combination lock.~~

Reason: Exception 2 of 1010.2.3 is currently a bit challenging to interpret and apply consistently with the requirements in Section 305.3 of the ISPSC regarding locks and latches on doors and gates in barriers required by the ISPSC. The detailed provisions in the ISPSC are

not a good candidate for summarizing into an exception in the IBC – hence this proposal to editorially revise this exception. Section 305.3 of the ISPSC is inserted below.

305.3 Doors and gates.

Doors and gates in barriers shall comply with the requirements of Sections 305.3.1 through 305.3.3 and shall be equipped to accommodate a locking device. Pedestrian access doors and gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device. Doors and gates shall not swing over stairs.

305.3.1 Utility or service doors and gates.

Doors and gates not intended for pedestrian use, such as utility or service doors and gates, shall remain locked when not in use.

305.3.2 Double or multiple doors and gates.

Double doors and gates or multiple doors and gates shall have not fewer than one leaf secured in place and the adjacent leaf shall be secured with a self-latching device.

305.3.3 Latch release.

For doors and gates in barriers, the door and gate latch release mechanisms shall be in accordance with the following:

1. Where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such mechanism shall be located above the finished floor or ground surface in accordance with the following:
   1.1. At public pools and spas, not less than 52 inches (1219 mm) and not greater than 54 inches (1372 mm).
   1.2. At *residential* pools and spas, not less than 54 inches (1372 mm).
2. Where door and gate latch release mechanisms are of the self-locking type such as where the lock is operated by means of a key, an electronic opener or the entry of a combination into an integral combination lock, the lock operation control and the latch release mechanism shall be located above the finished floor or ground surface in accordance with the following:
   2.1. At public pools and spas, not less than 34 inches and not greater than 48 inches (1219 mm).
   2.2. At *residential* pools and spas, at not greater than 54 inches (1372 mm).
3. At private pools, where the only latch release mechanism of a self-latching device for a gate is located on the pool and spa side of the barrier, the release mechanism shall be located at a point that is at least 3 inches (76 mm) below the top of the gate.

305.3.4 Barriers adjacent to latch release mechanisms.

Where a latch release mechanism is located on the inside of a barrier, openings in the door, gate and barrier within 18 inches (457 mm) of the latch shall not be greater than $^1/_2$ inch (12.7 mm) in any dimension.

Section 305.3 of the ISPSC.

The other editorial revisions are because some operating devices for locks and latches of doors are not on the door, but may be adjacent to the door.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is replacing repeated text for a pointer. There is no change in requirements.

E52-24

E53-24

IBC: [BE] 403.5.3, [BE] 403.5.3.1, 1010.2.4, 1010.2.6; IFC: [BE] 1010.2.4, [BE] 1010.2.6

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

[BE] 403.5.3 Stairway door operation.

Stairway doors ~~other than the exit discharge doors~~ shall be permitted to be locked to prevent passage from the *stairway* ~~side~~ into the building. *Stairway* doors that are locked to prevent passage from the *stairway* ~~side~~ into the building shall be capable of being unlocked without unlatching where any of the following conditions occur:

1. Individually or simultaneously upon a signal from the *fire command center*.
2. Simultaneously upon activation of a *fire alarm signal* in an area served by the *stairway*.
3. Upon failure of the power supply to the lock or the locking system.

[BE] 403.5.3.1 Stairway communication system.

A telephone or other two-way communications system connected to an *approved constantly attended station* shall be provided at not less than every fifth floor in each *stairway* where the ~~doors to the~~ *stairway* doors are locked to prevent passage from the stairway into the building. Systems shall be *listed* in accordance with UL 2525 and installed in accordance with NFPA 72.

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of *persons* receiving care require containment or where *persons* receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In *buildings* in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices ~~from the~~ which, when locked, prevent egress ~~side~~ provided that:
   3.1. The doors are the main exterior doors to the *building*, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. *Manual bolts*, automatic flush bolts and *constant latching bolts* on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, *panic hardware*, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or *sleeping units* of Group R occupancies and equipped with a night latch, *dead bolt* or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.

7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the *building* from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the *building* for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling* or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

1010.2.6 Stairway door~~s~~ operation.

~~Interior *stairway*~~ *Stairway* doors in the *means of egress* ~~doors~~ shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. *Stairway* discharge doors shall be openable from the egress side and shall ~~only be locked from the opposite side~~ be permitted to be locked to prevent passage into the stairway through the stairway discharge door.
2. ~~This section shall not apply to~~ *Stairway* doors arranged in accordance with Section 403.5.3 shall be permitted to be locked to prevent passage from the stairway into the building.
3. *Stairway* ~~exit~~ doors shall not be locked ~~from the side opposite the egress side,~~ to prevent passage from the stairway into the building unless they are openable from the egress side and capable of being unlocked ~~simultaneously~~ without unlatching by any of the following methods:
   3.1. Shall be capable of being unlocked individually or simultaneously upon a signal from the *fire command center*, where present, or a signal by emergency personnel from a single location inside the main entrance to the *building*.
   3.2. Shall unlock simultaneously upon activation of a *fire alarm signal* when a fire alarm system is present in an area served by the stairway.
   3.3. Shall unlock upon failure of the power supply to the electric lock or the locking system.
4. *Stairway* ~~*exit*~~ doors shall be openable from the egress side and shall only be locked ~~from the opposite side~~ to prevent passage from the stairway into the building in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single *exit stairway* where permitted in Section 1006.3.4.
5. *Stairway* ~~exit~~ doors shall be openable from the egress side and shall only be locked ~~from the opposite side~~ to prevent passage from the stairway into the building in Group R-2 occupancies where the only interior access to the *dwelling unit* is from a single exit *stairway* where permitted in Section 1006.3.4.

2024 International Fire Code

Revise as follows:

[BE] 1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices ~~from the~~ which, when locked, prevent egress ~~side~~ provided that:
   3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: "THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED." The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *fire code official* for due cause.
4. Manual bolts, automatic flush bolts and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or sleeping units of Group R occupancies and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
6. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed* fire door test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.
8. Other than *egress courts*, where occupants must egress from an exterior space through the building for *means of egress*, *exit access* doors shall be permitted to be equipped with an *approved* locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required *exit access* door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each *exit access* door to determine if there are occupants using the outdoor area.
   8.5. A readily visible durable sign shall be posted on the interior side on or adjacent to each locked required *exit access* door serving the exterior area stating: "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling* or *sleeping units*.

10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less, serving a private office space.

[BE] 1010.2.6 Stairway doors operation.

~~Interior *stairway*~~ *Stairway* doors in the *means of egress* ~~doors~~ shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. *Stairway* discharge doors shall be openable from the egress side and shall ~~only be locked from the opposite side~~ be permitted to be locked to prevent passage into the stairway through the stairway discharge door.
2. ~~This section shall not apply to~~ *Stairway* doors arranged in accordance with Section 403.5.3 of the International Building Code shall be permitted to be locked to prevent passage from the stairway into the building.
3. *Stairway* ~~exit~~ doors shall not be locked ~~from the side opposite the egress side,~~ to prevent passage from the stairway into the building unless they are openable from the egress side and capable of being unlocked ~~simultaneously~~ without unlatching by any of the following methods:
   3.1. Shall be capable of being unlocked individually or simultaneously upon a signal from the *fire command center*, where present, or a signal by emergency personnel from a single location inside the main entrance to the building.
   3.2. Shall unlock simultaneously upon activation of a fire alarm signal when a *fire alarm system* is present in an area served by the stairway.
   3.3. Shall unlock upon failure of the power supply to the electric lock or the locking system.
4. *Stairway* ~~*exit*~~ doors shall be openable from the egress side and shall only be locked ~~from the opposite side~~ to prevent passage from the stairway into the building in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single *exit stairway* where permitted in Section 1006.3.4.
5. *Stairway* ~~exit~~ doors shall be openable from the egress side and shall only be locked ~~from the opposite side~~ to prevent passage from the stairway into the building in Group R-2 occupancies where the only interior access to the *dwelling unit* is from a single exit stairway where permitted in Section 1006.3.4.

Reason: Reviewing these sections of the IBC with a critical eye identifies several opportunities for editorial improvements.

In several sections there's language that permits stairway doors, where they comply with specified conditions, to be locked preventing passage from the stairway into the building or structure. But, the language used in the code is less clear than the language used in the 1st sentence of this paragraph of this reason statement. Several edits reflect the language of the 1st sentence of this paragraph.

Section 403.5.3 is all about provisions permitting locking of stairway doors in high-rise buildings limiting passage from the stairway into the building. In these provisions, there's not a need to address stairway exit discharge doors as stairway exit discharge doors are addressed in 1010.2.6 Exception 1. Section 403.5.3 is edited appropriately.

In sections 403.5.2 and 1010.2.6, the terms "stairway doors" and "stairway exit doors" are used to describe the same doors. It appears that "stairway doors" may be the better term to use when the code is addressing doors to / from stairways where the doors are in the means of egress (if the stairway doors are not in the means of egress, the code provisions most likely would not apply). Also, these provisions regarding stairway doors should be applicable to doors in interior exit stairways and to doors in exterior exit stairways. Edits are made in 403.5.2 and 1010.2.6.

The language of Exception 1 and 2 to Section 1010.2.6, as currently in the IBC, essentially exempt stairway discharge doors (Exception 1) and stairway doors complying with 403.5.3 (Exception 2) from the requirements in 1010.2.6 to be openable without the use of a key, special knowledge, or effort. That's not the intent of the code. These two exceptions are edited to more accurately describe the intent and scope of the exceptions.

In Exception 3 of Section 1010.2.6, the word "simultaneously" is redundant with the requirements in Items 3.1 and 3.2, and not appropriate if applied to Item 3.3. Thus "simultaneously" is deleted in Item 3 of 1010.2.6.

Exceptions 4 and 5 of Section 1010.2.6 are editorially revised to more clearly describe the intent of the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposal is not expected to increase or decrease the cost of construction.

The revisions are intended to be editorial improvements to the existing requirements of the code for stairways where the door can be locked.

E53-24

E54-24

IBC: 1010.2.4; IFC: [BE] 1010.2.4

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of *persons* receiving care require containment or where *persons* receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In *buildings* in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided that:
   3.1. The doors are the main exterior doors to the *building*, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. *Manual bolts*, automatic flush bolts and *constant latching bolts* on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, *panic hardware*, or similar operating hardware.
5. ~~Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or *sleeping units* of Group R occupancies and~~ Doors complying with any of the following are permitted to be equipped with a night latch, *dead bolt* or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
   5.1. Doors from individual Group R *dwelling* or *sleeping units* where a single *exit* complies with Section 1006.2.1 or 1006.3.4.
   5.2 Doors from individual sleeping rooms within *sleeping units* of *congregate living facilities* of Group R-2 and Group R-3 occupancies.
   5.3 Doors from individual sleeping rooms of *dwelling units* of Group R-2 occupancies serving as college or university residence halls.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the *building* from the roof.

8. Other than egress *courts*, where occupants must egress from an exterior space through the *building* for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling* or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

2024 International Fire Code

Revise as follows:

[BE] 1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided that:
   3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: “THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED.” The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *fire code official* for due cause.
4. Manual bolts, automatic flush bolts and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

5. ~~Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or sleeping units of Group R occupancies and~~ Doors complying with any of the following are permitted to be equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
   5.1. Doors from individual Group R *dwelling* or *sleeping units* where a single *exit* complies with Section 1006.2.1 or 1006.3.4.
   5.2 Doors from individual sleeping rooms within *sleeping units* of *congregate living facilities* of Group R-2 and Group R-3 occupancies.
   5.3 Doors from individual sleeping rooms of *dwelling units* of Group R-2 occupancies serving as college or university residence halls.
6. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed* fire door test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.
8. Other than *egress courts*, where occupants must egress from an exterior space through the building for *means of egress*, *exit access* doors shall be permitted to be equipped with an *approved* locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required *exit access* door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each *exit access* door to determine if there are occupants using the outdoor area.
   8.5. A readily visible durable sign shall be posted on the interior side on or adjacent to each locked required *exit access* door serving the exterior area stating: “THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED.” The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling*or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less, serving a private office space.

Reason: This code proposal is about permitting locking of doors to individual sleeping rooms on Group R-2 occupancies similar to what’s permitted regarding locking of doors of hotel rooms (i.e. *sleeping units*) and college / university *dormitory* rooms (i.e. *sleeping units*).

Some college and university *dormitories* and residence halls are designed and constructed with suite-style layouts. The residence halls at Upstate University of South Carolina are one example: www.uscupstate.edu/campus-life/housing-and-dining/housing-floor-plans/.

Another example is Clarkson College residence hall: www.clarksoncollege.edu/student-life/residence-life/floor-plan-layout/index. But, do note the layout of the Clarkson College residence hall suites include permanent provisions for living, sleeping, eating, cooking, and sanitation, which means these suites would be considered *dwelling units,* per the IBC definition of *dwelling units*, and the buildings would be R-2 apartment houses. Thus, these suites would not be *congregate living facilities* (because *congregate living facilities* have *sleeping units*, but not *dwelling units*, per the IBC definition of *congregate living facilities*), and additionally, buildings containing these suites would not be a *dormitories* (because *dormitories* are a subset of *congregate living facilities*, per IBC Section 310.3).

The IBC currently permits dead bolts on the door into residence hall suites in the same manner as doors into *dwelling units* – see IBC

Section 1010.2.4 Item 5. Considering the occupants of these residence hall suites are unlikely to be of the same family group (see the IBC definition of *dormitory*), there's a desire by the occupants to be able to enhance the security of their individual sleeping rooms. But, the IBC does not permit dead bolts on doors into each of the sleeping rooms of these residence hall suites.

This proposal was initially conceived as applicable only to Group R-2 *dormitories*; but perhaps the proposed revisions should be applicable to (permitted for) the individual sleeping rooms of all Group R-2 and Group R-3 *congregate living facilities* (as proposed here). *Congregate living facilities* include *boarding houses*, convents, *dormitories*, fraternities and sororities, and monasteries. In all of these uses, the occupants of the sleeping rooms would be primarily adults, are unlikely to be of the same family group, and the person that locks the door for security would be able to quickly unlock the door for egress.

Item 5.1 is moved from the Item 5 and editorially revised.

Item 5.2 applies to the individual sleeping rooms within the *sleeping units* of nontransient *congregate living facilities* of Group R-2, and applies to the sleeping units of nontransient and *transient congregate living facilities* of Group R-3.

Item 5.3 applies to the individual sleeping rooms of *dwelling units* in college and university residence halls.

2024 IBC Definitions (for information only):

[BG] BOARDING HOUSE. A building arranged or used for lodging for compensation, with or without meals, and not occupied as a single-family unit.

[BG] CONGREGATE LIVING FACILITIES. A building or part thereof that contains sleeping units where residents share bathroom or kitchen facilities, or both.

[BG] DORMITORY. A space in a building where group sleeping accommodations are provided in one room, or in a series of closely associated rooms, for persons not members of the same family group, under joint occupancy and single management, as in college dormitories or fraternity houses.

[A] DWELLING. A building that contains one or two dwelling units used, intended or designed to be used, rented, leased, let or hired out to be occupied for living purposes.

[A] DWELLING UNIT. A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

[A] SLEEPING UNIT. A single unit that provides rooms or spaces for one or more persons, includes permanent provisions for sleeping and can include provisions for living, eating and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

No cost changes.
This proposal permits, but does not require, the use of locking devices in these Group R applications.

E54-24

E55-24

IBC: 1010.2.4; IFC: [BE] 1010.2.4

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of *persons* receiving care require containment or where *persons* receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In *buildings* in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided that:
   3.1. The doors are the main exterior doors to the *building*, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. *Manual bolts*, automatic flush bolts and *constant latching bolts* on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, *panic hardware*, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or *sleeping units* of Group R occupancies and equipped with a night latch, *dead bolt* or security chain that requires a second non-simultaneous releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the *building* from the roof.

8. Other than egress *courts*, where occupants must egress from an exterior space through the *building* for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling* or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

2024 International Fire Code

Revise as follows:

[BE] 1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided that:
   3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: “THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED.” The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the *fire code official* for due cause.
4. Manual bolts, automatic flush bolts and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

5. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual *dwelling* or sleeping units of Group R occupancies and equipped with a night latch, dead bolt or security chain that requires a second non-simultaneous releasing motion, provided that such devices are openable from the inside without the use of a key or tool.
6. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed* fire door test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.
8. Other than *egress courts*, where occupants must egress from an exterior space through the building for *means of egress*, *exit access* doors shall be permitted to be equipped with an *approved* locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the *exit access doorways*.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required *exit access* door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each *exit access* door to determine if there are occupants using the outdoor area.
   8.5. A readily visible durable sign shall be posted on the interior side on or adjacent to each locked required *exit access* door serving the exterior area stating: “THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED.” The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual *dwelling*or *sleeping units*.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less, serving a private office space.

Reason: A “non-simultaneous” requirement for the permitted second releasing motion is currently not included in Item 5 of 1010.2.4. Although extremely unlikely, installing two lever-operated spring-loaded latching and locking devices on the door – which would require simultaneous releasing motions – should be prohibited by the code.
This proposal addresses this oversight in the IBC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal should not increase or decrease the cost of construction. It is an editorial clarification of the intent for locking arrangements at entrance doors in Group R dwelling and sleeping units.

E55-24

E56-24

IBC: TABLE 1010.2.4; IFC: [BE]TABLE 1010.2.4

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

TABLE 1010.2.4 MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS

APPLICATION WITH A PAIR OF DOORS WITH AN ACTIVE LEAF AND AN INACTIVE LEAF	THE PAIR OF DOORS IS REQUIRED TO COMPLY WITH SECTION 716	PERMITTED USES OF MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS.		
		Surface- or flush-mounted manual bolts	Automatic flush bolts	Constant latching bolts
Group B, F, M, or S occupancies with occupant load less than 50.	No	P	P	P
	Yes	NP	~~NP~~P[b]	P[b]
Group B, F, M, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 and the inactive leaf is not needed to meet egress capacity requirements.	No	P	P	P
	Yes	NP	~~NP~~P[b]	P[b]
Group I-2 patient care and sleeping rooms where inactive leaf is not needed to meet egress capacity requirements.	No	NP	~~NP~~P[~~b~~]	P
	~~Yes~~	~~NP~~	~~NP~~[~~b~~]	~~P~~
Any occupancy where panic hardware is not required, egress doors are used in pairs, and where both leaves are required to meet egress capacity requirements.	No	NP	P	NP
	Yes	NP	~~NP~~P[b]	NP
Storage or equipment rooms where the inactive leaf is not needed to meet egress capacity requirements.	No	P[a]	P	P
	Yes	P[a]	P	P

P = Permitted. NP = Not permitted.

a. Not permitted on corridor doors in Group I-2 occupancies where corridor doors are required to be positive latching.

b. Permitted only where both door leafs are self closing or automatic closing, and both leafs are arranged to automatically latch in the closed position ~~provided with a coordinator that causes the inactive leaf to be closed prior to the active leaf.~~.

2024 International Fire Code

Revise as follows:

[BE]TABLE 1010.2.4 MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS

APPLICATION WITH A PAIR OF DOORS WITH AN ACTIVE LEAF AND AN INACTIVE LEAF	THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH IBC SECTION 716	PERMITTED USES OF MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS		
		Surface- or flush-mounted manual bolts	Automatic flush bolts	Constant latching bolts
Group B, F, M, or S occupancies with occupant load less than 50.	No	P	P	P
	Yes	NP	~~NP~~P[b]	P[b]

Group B, F, M, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 and the inactive leaf is not needed to meet egress capacity requirements.	No	P	P	P
	Yes	NP	~~NP~~P[b]	P[b]
Group I-2 patient care and sleeping rooms where inactive leaf is not needed to meet egress capacity requirements.	No	NP	~~NP~~P[b]	P
	~~Yes~~	~~NP~~	~~NP~~[b]	~~P~~
Any occupancy where panic hardware is not required, egress doors are used in pairs, and where both leaves are required to meet egress capacity requirements.	No	NP	P	NP
	Yes	NP	~~NP~~P[b]	NP
Storage or equipment rooms where the inactive leaf is not needed to meet egress capacity requirements.	No	P[a]	P	P
	Yes	P[a]	P	P

P = Permitted. NP = Not Permitted.

a. Not permitted on corridor doors in Group I-2 occupancies where corridor doors are required to be positive latching.

b. Permitted only where both door leafs are self closing or automatic closing, and both leafs are arranged to automatically latch in the closed position ~~provided with a coordinator that causes the inactive leaf to be closed prior to the active leaf.~~

Reason: This proposal adds the Mercantile occupancy (M) to the first two rows of Table 1010.2.4 to specifically permit manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf of a pair of doors. A common application of these hardware items are the doors to automobile showrooms, where the inactive leaf opens wide enough to permit cars to be rolled into and out of the showroom. These two rows in Table 1010.2.4 are where the inactive leaf is not needed for egress capacity.

Also, footnote b is added to two cells in the right-hand column. In these applications where the doors are required to comply with Section 716, these doors are required by other parts of the IBC to be opening protectives, and required to be self-closing or automatic-closing, and to latch when closed. We overlooked this nuance when we proposed this table for the 2024 IBC.

This proposal also editorially revises this table and footnote. Footnote b of Table 1010.2.4 currently is not quite accurate as some pairs of doors are designed such that both door leafs (the active leaf and the inactive leaf) close and latch without needing a coordinator to close the inactive leaf prior to the active leaf. Also, revising a couple cells in Table 1010.2.4 to mesh with the revisions in Footnote b.

In Group I-2, patient care and sleeping room doors are, for all practical purposes, not required by the IBC to comply with Section 716 (i.e. to be fire rated doors). Thus, it is appropriate to remove this partial row for Group I-2 patient care rooms and sleeping rooms.

IBC Section 407.3.1 specifically states that Group I-2 corridor doors are not required to be self-closing or automatic-closing except in the very limited situations where the corridor doors are in a wall required to be rated by Section 509.4 Incidental uses, or for enclosure of a vertical opening or an exit. In Group I-2, patient care and sleeping room doors are essentially not installed in these situations.

Also, in Group I-2, patient care and sleeping room doors are not required to be self-closing or automatic-closing, and the footnote in the cell under Automatic flush bolts should not be there.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal does not increase or decrease the cost of construction.

This proposal adds, for Mercantile occupancies, the option to use manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf of a pair of doors. And, the proposal editorially corrects footnote b and editorially revises Table 1010.2.4.

E56-24

E57-24

IBC: 1010.2.7 (New), 1010.2.7, 1010.2.7.2 (New), 1010.2.7.3 (New); IFC: 1010.2.7 (New), [BE] 1010.2.7, 1010.2.7.2 (New), 1010.2.7.3 (New)

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Add new text as follows:

1010.2.7 Locking arrangements in educational occupancies. In Group E occupancies, Group B colleges and universities, Group A occupancies accessory to Group B colleges and universities, and Group I-4 occupancies, egress doors and exterior entry doors shall comply with Sections 1010.2.7.1 through 1010.2.7.3.

Revise as follows:

~~1010.2.7~~**1010.2.7.1 ~~Locking arrangements~~ Egress doors in educational occupancies.**
~~In Group E occupancies, Group B educational occupancies, and Group I-4 occupancies, egress~~ Egress doors from classrooms, offices and other occupied rooms shall be provided with locking arrangements designed to keep intruders from entering the room and shall comply with all of the following ~~conditions~~:

1. The doors shall be capable of being locked from inside the room.
2. ~~1.~~ The doors shall be capable of being unlocked from outside the room with a key or other *approved* means.
3. ~~2.~~ The doors shall be openable from within the room in accordance with Section 1010.2.
4. ~~3.~~ Modifications shall not be made to *listed panic hardware*, *fire door* hardware or door closers.
5. ~~4.~~ Modifications to *fire door assemblies* shall be in accordance with NFPA 80.

~~Remote locking or unlocking of doors from an *approved* location shall be permitted in addition to the unlocking operation in Item 1.~~

Add new text as follows:

1010.2.7.2 Exterior entry doors. Exterior doors which provide entry into the building shall be provided with locking arrangements designed to keep intruders from entering the building, and shall comply with all of the following:

1. The doors shall be lockable from the egress side of the door.
2. A minimum of one door on each building face shall be capable of being unlocked from outside the building with a key or other approved means.
3. Each egress door shall be openable from within the building in accordance with Section 1010.2.

1010.2.7.3 Remote locking and unlocking. Remote locking and unlocking of doors from an approved location shall be permitted.

2024 International Fire Code

Add new text as follows:

1010.2.7 Locking arrangements in educational occupancies. In Group E occupancies, Group B colleges and universities, Group A occupancies accessory to Group B colleges and universities, and Group I-4 occupancies, egress doors and exterior entry doors shall comply with Sections 1010.2.7.1 through 1010.2.7.3.

Revise as follows:

[BE] ~~1010.2.7~~1010.2.7.1 ~~Locking arrangements~~ Egress doors in educational occupancies.

~~In Group E occupancies, Group B educational occupancies, and Group I-4 occupancies, egress~~ Egress doors from classrooms, offices and other occupied rooms shall be provided with locking arrangements designed to keep intruders from entering the room and shall comply with all of the following ~~conditions~~:

1. The doors shall be capable of being locked from inside the room.
2. ~~1.~~ The doors shall be capable of being unlocked from outside the room with a key or other *approved* means.
3. ~~2.~~ The doors shall be openable from within the room in accordance with Section 1010.2.
4. ~~3.~~ Modifications shall not be made to *listed* panic hardware, fire door hardware or door closers.
5. ~~4.~~ Modifications to fire door assemblies shall be in accordance with NFPA 80.

~~Remote locking or unlocking of doors from an *approved* location shall be permitted in addition to the unlocking operation in Item 1.~~

Add new text as follows:

1010.2.7.2 Exterior entry doors. Exterior doors which provide entry into the building shall be provided with locking arrangements designed to keep intruders from entering the building and shall comply with all of the following:

1. The doors shall be lockable from the egress side of the door.
2. A minimum of one door of each building face shall be capable of being unlocked from outside the building with a key or other approved means.
3. Each egress door shall be openable from within the building in accordance with Section 1010.2.

1010.2.7.3 Remote locking and unlocking. Remote locking and unlocking of doors from an approved location shall be permitted.

Reason: IBC

In educational occupancies, this proposal requires, primarily, egress doors from classrooms and other occupiable rooms to be lockable from the inside of the room. This proposal also requires exterior entry doors to be lockable from inside the buildings. These proposed requirements are consistent with current practices of design and construction of new schools, and are consistent with recommendations by a wide range of school safety and security advocates, including the U.S. Dept. of Homeland Security (DHS), and the Partner Alliance for Safer Schools (PASS).

Several poignant examples:

The Sandy Hook Advisory Commission's Final Report, dated March 6, 2015, of the investigation of the tragedy at Sandy Hook Elementary School in Newtown, Connecticut, Dec. 14, 2012, recommends:

1. Requiring classroom and other safe-haven areas to have doors that can be locked from the inside.

2. All exterior doors in K-12 schools be equipped with hardware capable of implementing a full perimeter lockdown.

The May 24, 2022 incident at Robb Elementary, Uvalde, Texas, confirmed the importance of the ability to lock exterior doors from the interior of the building. Reportedly, the door the gunman used to enter the Robb Elementary building was lockable only from the outside of the building (same with other exterior doors), and from the inside it was not possible to determine if the exterior door was locked to prevent entry. These exterior doors were required to be kept locked and closed. The interior classroom doors in Robb Elementary reportedly could only be locked from outside the classroom, and teachers were required, by policy, to keep the classroom doors locked and closed. But, there was no way to confirm whether the exterior handle was locked from the inside of the classroom. For convenience, reportedly teachers would use rocks to prop open exterior doors, and they used door stops, wedges, and magnets to prevent interior door locks from latching.

Despite billions of dollars invested in hardening schools nationally, 1 in 4 U.S. public schools lack classroom doors that can be locked from the inside, according to a survey conducted two years ago by the National Center on Education Statistics, a federal research office.Doors that can be quickly and easily locked can mean the difference between life and death when a shooter is on school grounds.

Safety commissions, teachers, fire safety groups, and both gun rights and gun control groups have all advocated for doors which can be locked from the inside since the Columbine High School, Columbine, Colorado, shooting in 1999.

Sources:

https://passk12.org/

https://www.cisa.gov/topics/physical-security/school-safety

https://passk12.org/

https://portal.ct.gov/-/media/Malloy-Archive/Sandy-Hook-Advisory-Commission/SHAC_Final_Report_3-6-2015.pdf

https://house.texas.gov/_media/pdf/committees/reports/87interim/Robb-Elementary-Investigative-Committee-Report-update.pdf

https://apnews.com/article/politics-shootings-texas-school-safety-2c97d26b56e8b081aa725ee2235e4a3b

https://www.nbcnews.com/news/us-news/uvalde-classrooms-lacked-security-door-locks-rcna37358

https://nces.ed.gov/programs/digest/d21/tables/dt21_233.50.asp

https://www.cft.org/california-teacher/our-fight-win-security-doorlocks

https://www.firemarshals.org/resources/Documents/NASFM%20Classroom%20Door%20Security%2020210217.pdf

https://www.defensivestrategies.org/downloads/NRA-National-School-Shield-Report.pdf

https://everytownresearch.org/report/how-to-stop-shootings-and-gun-violence-in-schools/

The proposed requirements do not mandate the use of specific locks or lock functions – that should be left up to the schools and educational institutions.

IFC

In educational occupancies, this proposal requires, primarily, egress doors from classrooms and other occupiable rooms to be lockable from the inside of the room. This proposal also requires exterior entry doors to be lockable from inside the buildings. These proposed requirements are consistent with recommendations by a wide range of school safety and security advocates, including the U.S. Dept. of Homeland Security (DHS), and the Partner Alliance for Safer Schools (PASS).

Several poignant examples:

The Sandy Hook Advisory Commission's Final Report, dated March 6, 2015, of the investigation of the tragedy at Sandy Hook Elementary School in Newtown, Connecticut, Dec. 14, 2012, recommends:

1. Requiring classroom and other safe-haven areas to have doors that can be locked from the inside.

2. All exterior doors in K-12 schools be equipped with hardware capable of implementing a full perimeter lockdown.

The May 24, 2022 incident at Robb Elementary, Uvalde, Texas, confirmed the importance of the ability to lock exterior doors from the interior of the building. Reportedly, the door the gunman used to enter the Robb Elementary building was lockable only from the outside of the building (same with other exterior doors), and from the inside it was not possible to determine if the exterior door was locked to prevent entry. These exterior doors were required to be kept locked and closed. The interior classroom doors in Robb Elementary reportedly could only be locked from outside the classroom, and teachers were required, by policy, to keep the classroom doors locked

and closed. But, there was no way to confirm whether the exterior handle was locked from the inside of the classroom. For convenience, reportedly teachers would use rocks to prop open exterior doors, and they used door stops, wedges, and magnets to prevent interior door locks from latching.

Despite billions of dollars invested in hardening schools nationally, 1 in 4 U.S. public schools lack classroom doors that can be locked from the inside, according to a survey conducted in 2020 by the National Center on Education Statistics, a federal research office.

Doors that can be quickly and easily locked can mean the difference between life and death when a shooter is on school grounds. Safety commissions, teachers, fire safety groups, and both gun rights and gun control groups have all advocated for doors which can be locked from the inside since the Columbine High School, Columbine, Colorado, shooting in 1999.

Sources:

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https://portal.ct.gov/-/media/Malloy-Archive/Sandy-Hook-Advisory-Commission/SHAC_Final_Report_3-6-2015.pdf

https://house.texas.gov/_media/pdf/committees/reports/87interim/Robb-Elementary-Investigative-Committee-Report-update.pdf

https://apnews.com/article/politics-shootings-texas-school-safety-2c97d26b56e8b081aa725ee2235e4a3b

https://www.nbcnews.com/news/us-news/uvalde-classrooms-lacked-security-door-locks-rcna37358

https://nces.ed.gov/programs/digest/d21/tables/dt21_233.50.asp

https://www.cft.org/california-teacher/our-fight-win-security-doorlocks

https://www.firemarshals.org/resources/Documents/NASFM%20Classroom%20Door%20Security%2020210217.pdf

https://www.defensivestrategies.org/downloads/NRA-National-School-Shield-Report.pdf

https://everytownresearch.org/report/how-to-stop-shootings-and-gun-violence-in-schools/

The proposed requirements do not mandate the use of specific locks or lock functions – that should be left up to the schools and educational institutions.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Greater than $10.

Estimated Immediate Cost Impact Justification (methodology and variables):

IBC

From an IBC perspective, the proposal includes new requirements that would be applicable to locks on interior doors, and applicable to locks on exterior doors. However, from a practical perspective, the proposed requirements for locks on interior and exterior doors are consistent with current practices of design and construction of new schools. Thus, from a cost perspective, the actual increase in cost is nil.

The amount of greater than $10 is submitted to satisfy ICC's requirement for quantifying cost.

This proposal will increase the cost of construction by at least $10 for hardware, installation, etc., however the significant safety benefits secured by making this change will far outweigh any increased costs incurred. Discussions about specific costs and prices would violate ICC's Council Policy 50 (CP-50), conflict with legal advice given to the staff and members of the Builders Hardware Manufacturers Association, and defy legal guidance provided to associations by government antitrust regulators.

IFC

From an IFC perspective, the proposal includes new requirements that would be applicable to existing buildings for locks on interior doors, and for locks on exterior doors. 1 in 4 U.S. public schools lack classroom doors that can be locked from the inside, according to a survey conducted in 2020 by the National Center on Education Statistics, a federal research office. The proposed requirements are consistent with recommendations by a wide range of school safety and security advocates, including the U.S. Dept. of Homeland Security, and the Partner Alliance for Safe Schools (PASS).

The devastating events in schools have demonstrated the need for locks on interior doors that are lockable from inside the room, and have demonstrated the need for locks on exterior doors that are also lockable from inside the building. That's the bottom line of what this proposal requires.

The amount of greater than $10 is submitted to satisfy ICC's requirement for quantifying cost.

This proposal will increase the cost of construction by at least $10 for hardware, installation, etc., however the significant safety benefits secured by making this change will far outweigh any increased costs incurred. Discussions about specific costs and prices would violate ICC's Council Policy 50 (CP-50), conflict with legal advice given to the staff and members of the Builders Hardware Manufacturers Association, and defy legal guidance provided to associations by government antitrust regulators.

E57-24

E58-24

IBC: 1010.2.8; IFC: [BE] 1010.2.8

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.2.8 Panic and fire exit hardware.
Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.2.4, Item 3.
2. Doors provided with *panic hardware* or *fire exit hardware* and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.2.10.
3. Exit access doors serving occupied exterior areas shall be permitted to be locked in accordance with Section 1010.2.4, Item 8.
4. Courtrooms shall be permitted to be locked in accordance with Section 1010.2.12, Item 3.
5. Gates surrounding stadiums complying with Section 1010.4.1.

2024 International Fire Code

Revise as follows:

[BE] 1010.2.8 Panic and fire exit hardware.
Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.2.4, Item 3.
2. Doors provided with *panic hardware* or *fire exit hardware* and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.2.10.
3. *Exit access* doors serving occupied exterior areas shall be permitted to be locked in accordance with Section 1010.2.4, Item 8.
4. Courtrooms shall be permitted to be locked in accordance with Section 1010.2.12, Item 3.
5. Gates surrounding stadiums complying with Section 1010.4.1.

Reason: This proposal is intended to address an internal conflict in the code:
IBC Section 1010.4 (and same section in IFC) requires gates to comply with applicable requirements of the code which would include 1010.2.8 Panic and Fire Exit Hardware (see the text copied below). But, Section 1010.4.1 states panic hardware is not required on gates surrounding stadiums where specific conditions are met.
This proposal adds a coordinating exception to 1010.2.8 to address this conflict.

2024 IBC, and IFC
1010.4 Gates. Gates serving the means of egress system shall comply with the requirements of this section. Gates used as a component in a means of egress shall conform to the applicable requirements for doors.
Exception: Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.
1010.4.1 Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while the public is present, and where safe dispersal areas based on 3 square feet (0.28 m2) per occupant are located

between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space. See Section 1028.5 for means of egress from safe dispersal areas.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

No cost implications. This proposal is an editorial improvement in the code that eliminates the conflicts with Section 1010.4 for gates.

E58-24

E59-24

IBC: 1010.2.8.2, 1010.2.8.2.1 (New); IFC: [BE] 1010.2.8.2, 1010.2.8.2.1 (New)

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Delete and substitute as follows:

~~**1010.2.8.2 Rooms with electrical equipment.**~~
~~Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular *data centers* shall be equipped with *panic hardware* or *fire exit hardware*. Rooms containing electrical equipment rated 800 amperes or more that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70, such doors shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.~~

1010.2.8.2 Rooms with electrical equipment. Where an electrical equipment room, enclosure, or vault meets one or more of the following criteria, exit doors or exit access doors shall comply with Section 1010.2.8.2.1.

1. Room, enclosure, or vault for electrical equipment of 1000 volts, nominal, or less and rated 800 amperes or more that contain overcurrent devices, switching devices, or control devices and where the exit door or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70.
2. Vault for electrical equipment of over 1000 volts, nominal.
3. Room or enclosure for electrical equipment of over 1000 volts, nominal, and where the exit door or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70.
4. Transformer vault.
5. Room, enclosure, or vault for batteries or energy storage systems having a capacity greater than 1 kWh (3.6MJ).
6. Modular data center.

Add new text as follows:

1010.2.8.2.1 Electrical equipment room doors. Exit doors and exit access doors of such electrical room, enclosure, or vault shall swing in the direction of egress travel, and locks and latches on the doors shall be provided with panic hardware or fire exit hardware.

2024 International Fire Code

Delete and substitute as follows:

~~**[BE] 1010.2.8.2 Rooms with electrical equipment .**~~
~~*Exit* or *exit access* doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular *data centers* shall be equipped with *panic hardware* or *fire exit hardware*. Rooms containing electrical equipment rated 800 amperes or more that contain overcurrent devices, switching devices or control devices and where the *exit* or *exit access* door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70, such doors shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.~~

[BE] 1010.2.8.2 Rooms with electrical equipment . Where an electrical equipment room, enclosure, or vault meets one or more of the following criteria, exit doors or exit access doors shall comply with Section 1010.2.8.2.1.

1. Room, enclosure, or vault for electrical equipment of 1000 volts, nominal, or less and rated 800 amperes or more that contain overcurrent devices, switching devices, or control devices and where the exit door or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70.
2. Vault for electrical equipment of over 1000 volts, nominal.
3. Room or enclosure for electrical equipment of over 1000 volts, nominal, and where the exit door or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70.
4. Transformer vault.
5. Room, enclosure, or vault for batteries or energy storage systems having a capacity greater than 1 kWh (3.6MJ).
6. Modular data center.

Add new text as follows:

1010.2.8.2.1 Electrical equipment room doors. Exit doors and exit access doors of such electrical room, enclosure, or vault shall swing in the direction of egress travel, and locks and latches on the doors shall be provided with panic hardware or fire exit hardware.

Reason: This proposal is intended to be editorial and to more closely mesh with the requirements in NFPA 70 National Electrical Code.

The IBC, in Chapter 27, requires compliance with NFPA 70. The current text in Section 1010.2.8.2 closely follows requirements in NFPA 70 regarding panic hardware and fire exit hardware, but the revised text more closely follows the requirements in NFPA 70, making it easier to understand what's required to comply with NFPA 70.

The charging language of 1010.2.8.2 is primarily the existing language in 1010.2.8.2 with editing to more closely mesh with terms used in NFPA 70. For example, electrical enclosures of wire fence-like material surrounding electrical equipment may not be considered an electrical equipment room – hence the proposed revisions to electrical equipment room, enclosure, or vault.

The criteria in Items 1 through 6 are from current requirements in 1010.2.8.2 and augmented by requirements in these sections of NFPA 70:

1. 110.26(C)(3) – electrical equipment rooms, enclosures, or vaults for 1000 volts or less
2. 110.31(A)(4) – electrical equipment vaults for more than 1000 volts
3. 110.33(A)(3) – electrical equipment rooms or enclosures for more than 1000 volts
4. 450.43(C) – transformer vaults
5. 480.1 and 480.10(E) – batteries and energy storage systems
6. 646.19 – modular data centers

Also, these six criteria were separated into items for easier correlation to NFPA 70 requirements.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal should result in no cost increase or decrease. The IBC requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

E59-24

E60-24

IBC: 1010.2.12.1; IFC: [BE] 1010.2.12.1

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.2.12.1 Delayed egress locking system.

The delayed egress electrical locking system shall be installed and operated in accordance with all of the following:

1. The delay of the delayed egress electrical locking system shall deactivate upon actuation of the *automatic sprinkler system* or *automatic fire detection system*, allowing immediate free egress.
2. The delay of the delayed egress electrical locking system shall deactivate upon loss of power to the electrical locking system or electrical lock, allowing immediate free egress.
3. The delay of the delayed egress locking electrical system shall have the capability of being deactivated at the *fire command center* and other *approved* locations.
4. ~~An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when~~ When a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds, an irreversible process shall be initiated that allows such egress in not more than 15 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. ~~Once the delay has been deactivated, rearming~~ Rearming the delay electronics shall be by manual means only.

   Exception: Where *approved*, a delay of not more than 30 seconds is permitted on a door with a delayed egress ~~door~~ locking system.

5. The egress path from any point shall not pass through more than one delayed egress locking system.

   Exceptions:

   1. In Group I-1, Condition 2, Group I-2 or I-3 occupancies, the egress path from any point in the *building* shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds.
   2. In Group I-1, Condition 1 or Group I-4 occupancies, the egress path from any point in the *building* shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds and the *building* is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
   3. The egress path from any point in the building shall be permitted to pass a second delayed egress locking systems where the irreversible process of the second delayed egress locking system is initiated concurrently with the irreversible process required by Item 4 of the first delayed egress locking system.

6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware.

   Exception: Where *approved*, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

   6.1. For doors that swing in the direction of egress, the sign shall read, "PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."

   6.2. For doors that swing in the opposite direction of egress, the sign shall read, "PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."

   6.3. The sign shall comply with the visual character requirements in ICC A117.1.

7. Emergency lighting shall be provided on the egress side of the door.

8. The electromechanical or electromagnetic locking device shall be *listed* in accordance with either UL 294 or UL 1034 .

2024 International Fire Code

Revise as follows:

[BE] 1010.2.12.1 Delayed egress locking system.

The delayed egress electrical locking system shall be installed and operated in accordance with all of the following:

1. The delay of the delayed egress electrical locking system shall deactivate upon actuation of the *automatic sprinkler system* or automatic fire detection system, allowing immediate, free egress.
2. The delay of the delayed egress electrical locking system shall deactivate upon loss of power to the electrical locking system or electrical lock , allowing immediate free egress.
3. The delay of the delayed egress locking electrical system shall have the capability of being deactivated at the *fire command center* and other *approved* locations.
4. ~~An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when~~When a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds, an irreversible process shall be initiated that allows such egress in not more than 15 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. ~~Once the delay has been deactivated, rearming~~ Rearming the delay electronics shall be by manual means only.

   Exception: Where *approved*, a delay of not more than 30 seconds is permitted on a door with a delayed egress ~~door~~ locking system.

5. The egress path from any point shall not pass through more than one delayed egress locking system.

   Exceptions:

   1. In Group I-1, Condition 2, Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds.
   2. In Group I-1, Condition 1 or Group I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds and the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
   3. The egress path from any point in the building shall be permitted to pass a second delayed egress locking systems where the irreversible process of the second delayed egress locking system is initiated concurrently with the irreversible process required by Item 4 of the first delayed egress locking system.

6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:

   Exception: Where *approved*, in Group I occupancies, the installation of a sign is not required where care recipients who, because of clinical needs, require restraint or containment as part of the function of the treatment area.

   6.1. For doors that swing in the direction of egress, the sign shall read: “PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.”

   6.2. For doors that swing in the opposite direction of egress, the sign shall read: “PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.”

   6.3. The sign shall comply with the visual character requirements in ICC A117.1.

7. Emergency lighting shall be provided on the egress side of the door.
8. The electromechanical or electromagnetic locking device shall be listed in accordance with either UL 294 or UL 1034.

Reason: In Item 4 and the exception to Item 4, the proposed revisions are primarily editorial. However, the revisions in the last sentence of Item 4 are technical, but are intended to clarify the intent of the code.

The last sentence of Item 4 is typically interpreted to require the delay electronics to be rearmed after the delay of the delayed egress locking system has completed. But, is that actually what this sentence requires? Copied here, for reference, is the existing last sentence of Item 4: “Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.”

Examining the current language, it has explicit requirements for rearming the locking system once the delay has completed, but, this sentence doesn’t explicitly permit, or prohibit, rearming the delay electronics while the delay is underway. From a code perspective, if it’s not prohibited, it’s permitted. If this last sentence of Item 4 is interpreted that the delay electronics are not prohibited from being rearmed while the delay is underway, then it could be further interpreted the rearming could be executed by other than manual means only.

Rearming the delayed egress locking system, after the delay has deactivated, by manual means only communicates the intent that an authorized person, typically an employee or staff person, is required to physically be at the door to investigate what triggered the activation of the delayed egress locking system and to ensure that it is safe to re-set the delay.

With these thoughts in mind, the perspective from which the revisions to the last sentence of Item 4 are written: With a person at the delayed egress door to rearm the locking system manually, and to ensure it’s safe to do so, there’s little, if any, difference if the delayed egress locking system is rearmed while the delay is underway, or the locking system is rearmed after the delay has completed. In other words, there’s little, if any, benefit to be gained if the locking system may be rearmed only after the delay has completed, compared to permitting rearming the locking system at any time after the delay has been initiated, assuming the rearming is required to be by manual means only (a person physically is at the door).

Moving to Item 5, the proposed new exception to Item 5 is intended to address situations in other than I-1 or I-2 where more than one delayed egress locking systems are desired. Consider the situation where a delayed locking system is needed on the stairway door on the 7th floor, and the building owner desires or needs a delayed egress locking system on the ground floor stairway discharge door. This new exception is intended to address these situations.

This proposed additional exception to Item 5 is intended to permit a 2nd delayed egress locking system where the delay of the 2nd system is initiated simultaneously with the delay of the 1st system. The effect is there is no delay at the 2nd delayed egress door for the occupant that goes through the 1st delayed egress locked door.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal should not increase or decrease the cost of construction.

The proposed revisions in Section 1010.2.12.1, Item 4are intended to clarify the intent of the code.

The proposed new exception in Section 1010.2.12.1, Item 5 is an optional application of a second delayed egress locking system. Delayed egress locking systems are not required by the code.

E60-24

E61-24

IBC: SECTION 202 (New), 1010.2.15 (New), 1010.2.15.1 (New), 1010.2.15.2 (New), 1010.2.15.3 (New); IFC: SECTION 202 (New), 1010.2.15 (New), 1010.2.15.1 (New), 1010.2.15.2 (New), 1010.2.15.3 (New)

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com); Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org); Jeff O'Neil, Chair, Committee on Healthcare (ahc@iccsafe.org)

2024 International Building Code

Add new definition as follows:

CONTROL VESTIBULE.
A space with doors in series that are interlocked such that when one door is open other doors are restricted from opening.

Add new text as follows:

1010.2.15 Control Vestibule. Control vestibules shall be permitted in the means of egress for security, environmental control, or clinical needs in:

1. Groups F, H-3, H-4, H-5, I-1, I-2, and S where the occupant load of the room or space served by the control vestibule is less than 50.
2. Groups B and M where the occupant load of the room or space served by the control vestibule is 10 or less.

1010.2.15.1 Protection. Control vestibules shall be permitted where the building complies with either of the following:

1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. An approved automatic smoke detection system in accordance with Section 907 is installed in the room or space served by the control vestibule.

1010.2.15.2 Egress path. The egress path from any point shall not pass through more than one control vestibule.

1010.2.15.3 Interlocking door operation. Where doors in the means of egress are configured as a control vestibule, the control vestibule door interlocking system shall provide for egress. The control vestibule shall comply with all of the following:

1. An approved override switch shall be provided on the egress side of each door of the control vestibule which unlocks the interlocked electric lock of that door.
   1.1. Each override switch shall be located within 48 inches (1219 mm) of the door and 40 inches minimum to 48 inches maximum (1016 mm to 1219 mm) above the floor.
   1.2. Signage shall be provided with instructions on the use of the interlock override switch.
   1.3. When operated, the override switch shall result in direct interruption of power to the interlocked electric lock — independent of other electronics — and the interlocked electric lock shall remain unlocked for not less than 30 seconds.

   Exception: Where the control vestibule is designed to impede occupant egress for security reasons, the override switches for the door interlocks shall be permitted to be moved to approved alternate locations.
2. Upon activation of the automatic sprinkler system or automatic smoke detection system the interlock function of the doors of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.

4. Where a control vestibule serves a room or space equipped with an *emergency alarm system* for *hazardous materials*, the interlock function of the doors shall deactivate when such *emergency alarm system* is activated.
5. The doors of the control vestibule shall be self-closing.
6. The doors of the control vestibule shall swing in the direction of egress travel.

   Exception: Power-operated doors in accordance with Section 1010.3.2.
7. The electro-mechanical or electromagnetic locking devices shall be listed in accordance with either UL 294 or UL 1034.

2024 International Fire Code

Add new definition as follows:

CONTROL VESTIBULE. A space with doors in series that are interlocked such that when one door is open other doors are restricted from opening.

Add new text as follows:

1010.2.15 Control vestibule. Control vestibules shall be permitted in the means of egress for security, environmental control, or clinical needs in:

1. Groups F, H-3, H-4, H-5, I-1, I-2, and S where the occupant load of the room or space served by the control vestibule is less than 50.
2. Groups B and M where the occupant load of the room or space served by the control vestibule is 10 or less.

1010.2.15.1 Protection. Control vestibules shall be permitted where the building complies with either of the following:

1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. An approved automatic smoke detection system in accordance with Section 907 is installed in the room or space served by the control vestibule.

1010.2.15.2 Egress path. The egress path from any point shall not pass through more than one control vestibule.

1010.2.15.3 Interlocking door operation. Where doors in the means of egress are configured as a control vestibule, the control vestibule door interlocking system shall provide for egress. The control vestibule shall comply with all of the following:

1. Interlocking door operation. Where doors in the means of egress are configured as a control vestibule, the control vestibule door interlocking system shall provide for egress. The control vestibule shall comply with all of the following:
   1.1. Each override switch shall be located within 48 inches (1219 mm) of the door and 40 inches minimum to 48 inches maximum (1016 mm to 1219 mm) above the floor.
   1.2. Signage shall be provided with instructions on the use of the interlock override switch.
   1.3. When operated, the override switch shall result in direct interruption of power to the interlocked electric lock — independent of other electronics — and the interlocked electric lock shall remain unlocked for not less than 30 seconds.

   Exception: Where the control vestibule is designed to impede occupant egress for security reasons, the override switches for the door interlocks shall be permitted to be moved to approved alternate locations.
2. Upon activation of the automatic sprinkler system or automatic smoke detection system the interlock function of the doors of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.

4. Where a control vestibule serves a room or space equipped with an emergency alarm system for hazardous materials, the interlock function of the doors shall deactivate when such emergency alarm system is activated.

5. The doors of the control vestibule shall be self-closing.

6. The doors of the control vestibule shall swing in the direction of egress travel.

   Exception: Power-operated doors in accordance with Section 1010.3.2.

7. The electro-mechanical or electromagnetic locking devices shall be listed in accordance with either UL 294 or UL 1034.

Reason: Control vestibules are being incorporated in the means of egress in a variety of occupancies. A control vestibule has doors in series which are interlocked such that when one door of a control vestibule is open, the other door in series in the control vestibule is temporarily prevented from being opened.

The IBC is currently silent regarding requirements and guidance for control vestibules. This proposal does not require installation of control vestibules, but offers requirements (guidance) for where control vestibules are incorporated in the means of egress.

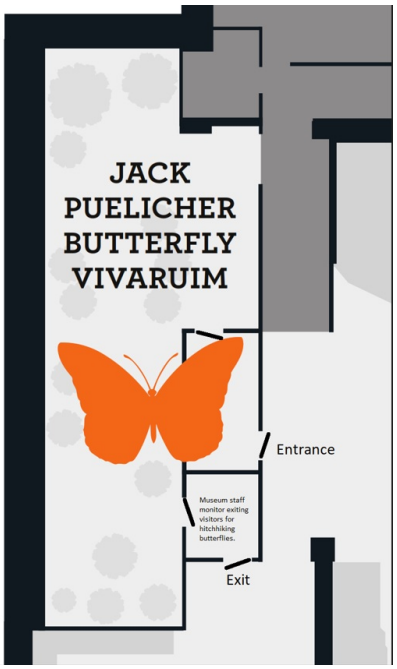
This proposal addresses egress related requirements for control vestibules. Control vestibules which provide security or access control on the ingress side of doors into a building or into a space within a building are more common than control vestibules on the egress side of doors in the means of egress from a space or from a building. Requirements for the access-side of control vestibules is typically outside the scope of the IBC. Thus access-side control vestibules are not regulated or prohibited by the IBC provided all requirements for egress are complied with. This proposal addresses control vestibules in the means of egress with egress-side requirements.

Control vestibules must provide for egress. Together, the definition and proposed requirements provide for egress where control vestibules are installed.

The occupancy groups and maximum occupant loads in this proposal (in 1010.2.15) are the result of discussions and votes during the Committee Action Hearing and Public Comment Hearing of the 2021 ICC code development cycle. And the result of subsequent suggestions and recommendations by stakeholders.

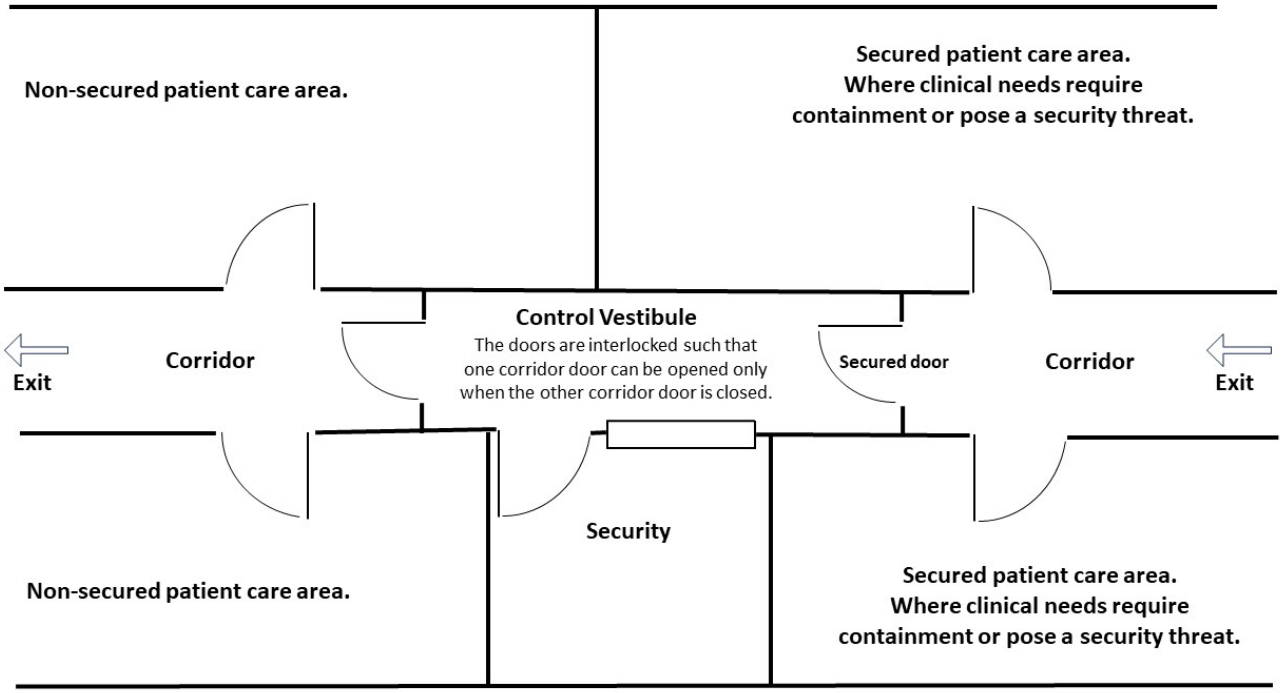
Control vestibules are most commonly configured as a space with two doors in series. But, some control vestibules are configured with more than one inner door and / or more than one outer door. For example, where a control vestibule is required to help keep clean rooms clean, there may be inner doors from more than one clean room opening into the control vestibule, and one outer door for leaving the control vestibule in the direction of egress. Control vestibules are different than sallyports, which are defined in the IBC and permitted in Group I-3 occupancies. Group I-3 includes correction centers, detention centers, jails, prisons, and similar uses. A sallyport is a security vestibule which prevents unobstructed passage. A control vestibule is intended to allow unobstructed passage but prevents more than one door of doors in series to be open at the same time.

The provisions of this proposal have been discussed, debated, and revised during the most recent ICC code development cycles, and the provisions have been further refined via feedback and comments from many stakeholders.



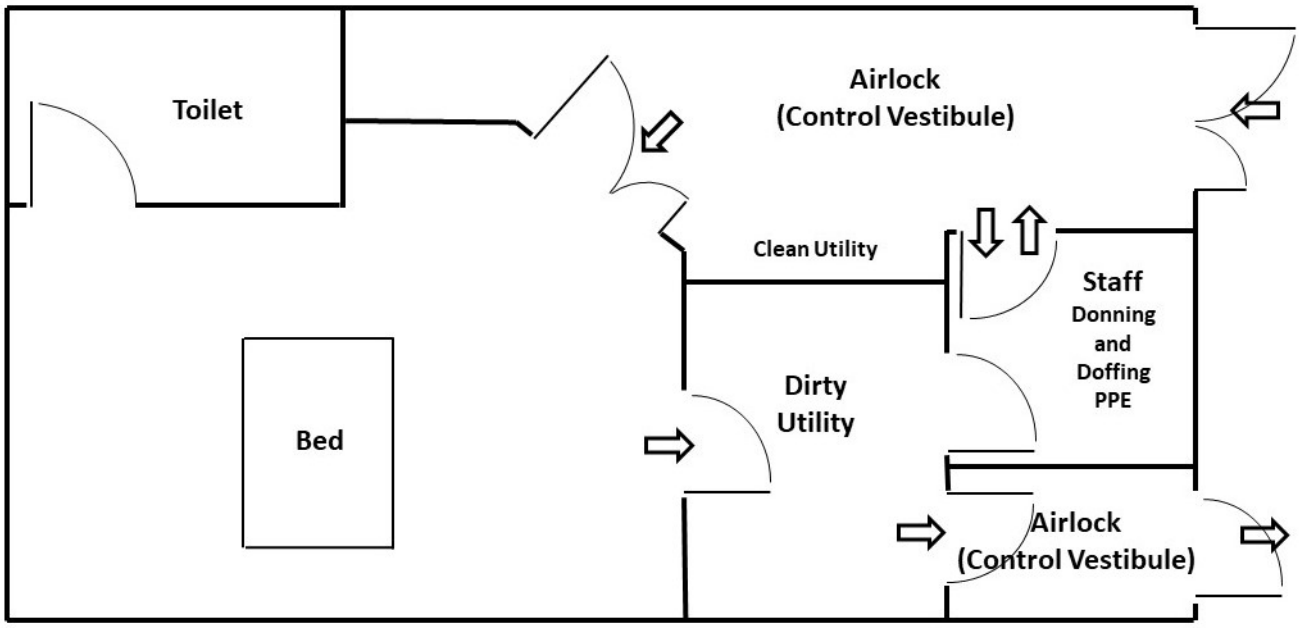
Milwaukee Public Museum Butterfly Vivarium

This picture and floor layout of the butterfly vivarium at the Milwaukee (Wisc.) Public Museum illustrate a potential application of a control vestibule. The vestibule and doors for one-way passage into the butterfly vivarium are currently configured as an “on your honor” control vestibule. The sign on the inner door advises visitors to the vivarium to wait for the outer door to close before opening the second door to enter. With electrical locks on the two doors, and with related controls, this space could be configured as a control vestibule. This proposal addresses requirements of control vestibules from an egress perspective, but not from an ingress perspective. In this butterfly vivarium example, the code’s requirements affect how the control vestibule would be configured to ensure egress.The one-way out vestibule on the exit side of this vivarium (see the floor plan) is also an ”on your honor” control vestibule. A museum staff person is stationed inside the exit vestibule tasked with ensuring butterflies do not escape with visitors, and with ensuring in each of these two vestibules that both doors in the vestibule are not open at the same time. Installing electrical interlocks and controls on the doors of these vestibules to create control vestibules would relieve the staff person from carefully watching the doors and enable the staff person to interact more with the visitors.



A control vestibule may be used in healthcare applications to prevent patients in the secured patient care area from making a successful "run for it" when the secured door is opened.

This is an example of an application of a control vestibule in the corridor between secured and non-secured patient care areas in a healthcare setting. The secured patient care area is for patients with clinical needs that require containment or pose a security threat.



Quarantine Suite

In healthcare, where it's critical to manage airflow into and out of the patient treatment space, quarantine suites may be configured with airlocks with interlocked doors (i.e. control vestibules). The airlock doors in the sketch would be configured such that only one door (or one pair of doors) in the airlock could be open at a time.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Committee for Healthcare (CHC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In

addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The IBC is currently silent regarding control vestibules, and control vestibules are not proposed to be required.
Today, where control vestibules are optionally constructed, alternative means and methods are typically used for code compliance.

E61-24

E62-24

IBC: 1010.3.1; IFC: [BE] 1010.3.1

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Revise as follows:

1010.3.1 Revolving doors.
Revolving doors shall comply with the following:

1. Revolving doors shall comply with BHMA A156.27 and shall be installed in accordance with the manufacturer's instructions.
2. Each revolving door shall be capable of *breakout* in accordance with BHMA A156.27 and shall provide an aggregate width of not less than 36 inches (914 mm).
3. A revolving door shall not be located within 10 feet (3048 mm) of the foot or top of *stairways* or escalators. A dispersal area shall be provided between the *stairways* or escalators and the revolving doors.
4. The revolutions per minute (rpm) for a revolving door shall not exceed the maximum rpm as specified in BHMA A156.27. Manual revolving doors shall comply with Table 1010.3.1(1). Automatic or *power-operated* revolving doors shall comply with Table 1010.3.1(2).
5. An emergency stop switch shall be provided near each entry point of power or automatic operated revolving doors within 48 inches (1219 mm) of the door and between 34 inches (864 mm) and 48 inches (1219 mm) above the floor. The activation area of the emergency stop switch button shall be not less than 1 inch (25 mm) in diameter and shall be red.
6. Each revolving door shall have ~~a side-hinged swinging~~ not less than one door that complies with Section 1010.1, and is not a revolving door, in the same wall and within 10 feet (3048 mm) of the revolving door.
7. Revolving doors shall not be part of an *accessible route* required by Section 1009 and Chapter 11.

2024 International Fire Code

Revise as follows:

[BE] 1010.3.1 Revolving doors.
Revolving doors shall comply with the following:

1. Revolving doors shall comply with BHMA A156.27 and shall be installed in accordance with the manufacturer's instructions.
2. Each revolving door shall be capable of *breakout* in accordance with BHMA A156.27 and shall provide an aggregate width of not less than 36 inches (914 mm).
3. A revolving door shall not be located within 10 feet (3048 mm) of the foot or top of *stairways* or escalators. A dispersal area shall be provided between the *stairways* or escalators and the revolving doors.
4. The revolutions per minute (rpm) for a revolving door shall not exceed the maximum rpm as specified in BHMA A156.27. Manual revolving doors shall comply with Table 1010.3.1(1). Automatic or power-operated revolving doors shall comply with Table 1010.3.1(2).
5. An emergency stop switch shall be provided near each entry point of power or automatic operated revolving doors within 48 inches (1219 mm) of the door and between 34 inches (864 mm) and 48 inches (1219 mm) above the floor. The activation area of the emergency stop switch button shall be not less than 1 inch (25 mm) in diameter and shall be red.
6. Each revolving door shall have ~~a side-hinged swinging~~ not less than one door that complies with Section 1010.1, and is not a revolving door, in the same wall and within 10 feet (3048 mm) of the revolving door.

7. Revolving doors shall not be part of an *accessible route* required by Section 1009 of this code and Chapter 11 of the International Building Code.

Reason: The stricken text in Item 6 is unnecessarily restrictive by requiring specifically a side hinged door where a balanced door or a pivoted door could also be used.
The proposed revisions reflect what we believe is the intent of Item 6: For normal ingress and egress, and for emergency egress, revolving doors must be complemented with a minimum of one nearby door that is not a revolving door, and which meets all the requirements for egress, and where required, meets accessibility requirements.
Also, it is not uncommon for the door beside a revolving door to be a low-energy power-operated hinged door. The current code language doesn't specifically permit a power-operated hinged door beside a revolving door. This could result in the interpretation that a low-energy power-operated hinged door is not permitted in that application.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal should not increase or decrease the cost of construction.
The requirement for a door next to revolving doors has not changed. The proposal results in expanding the options available to designers as long as the door meets all the requirements for egress and accessibility (where required) and is not a revolving door.

E62-24

E63-24

IBC: 1010.3.5 (New); IFC: 1010.3.5 (New)

Proponents: John Woestman, Kellen Company, Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2024 International Building Code

Add new text as follows:

1010.3.5 Airport Terminal Exit Lanes. Airport terminal egress from the secured airside area to the nonsecured landside area shall be permitted to be through exit lane breach control systems which comply with all of the following:

1. The exit lane breach control system is installed in accordance with the manufacturer's instructions.
2. The exit lane breach control system is approved by the building official.
3. The exit lane breach control system is accepted by the U.S. Department of Homeland Security (DHS) Transportation Security Administration (TSA).
4. The operation of the exit lane breach control system is included in the TSA-required airport security program.

2024 International Fire Code

Add new text as follows:

1010.3.5 Airport Terminal Exit Lanes. Airport terminal egress from the secured airside area to the nonsecured landside area shall be permitted to be through exit lane breach control systems which comply with all of the following:

1. The exit lane breach control system is installed in accordance with the manufacturer's instructions.
2. The exit lane breach control system is approved by the building official.
3. The exit lane breach control system is accepted by the U.S. Department of Homeland Security (DHS) Transportation Security Administration (TSA).
4. The operation of the exit lane breach control system is included in the TSA-required airport security program.

Reason: Airport exit lane breach control systems facilitate passenger movement in the terminals from secure areas to non-secure areas. Airports are installing these automated systems to improve security and remove much of the human element where arriving passengers move from the secure area of the airport to the unsecured area. The IBC is currently silent regarding requirements for airport exit lane breach control systems.

Airport exit lane breach control systems are relatively sophisticated, and not all the details as to how they work are made public (for good reasons). These systems incorporate power-operated doors, sensors, cameras, alarms, and electronic and human monitoring, all designed to detect unauthorized intruders and unauthorized objects.

Portland, Oregon airport exit lane breach control system.

This four-minute video of one manufacturer's exit lane breach control systems provides a good illustration of the functions: https://www.youtube.com/watch?v=PxMQB4ykOeo

Additional information about exit lane breach control systems is available:

https://www.assaabloyentrance.com/global/en/solutions/products/security-entrance-control/exit-lanes
https://www.hortondoors.com/additional-products/exit-breach-control/secure-exit-lane/

The TSA requires the airport's security program to include operation procedures for exit lane breach control systems.

The TSA does not "approve" the method for controlling exit lanes they no longer staff in airports—they only accept or do not accept the solution. However, the TSA can levy penalties or open a Letter of Investigation for breaches and any incidents that occur. As a result, it is in the airport's best interest to work closely with local TSA during the design and procurement stages and to update the airport security plan as appropriate.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal does not increase or decrease the cost of construction.
Airports are not required by this proposal to install exit lane breach control systems. This proposal provides guidance and requirements for airport exit lane breach control systems, should they be installed.

E63-24

E64-24

IBC: 1010.5, 1010.5.1, 1010.5.1.1, 1010.5.1.2 (New), 1010.5.1.3 (New), 1010.5.2, 1010.5.3, 1010.5.4, ; IFC: [BE] 1010.5, [BE] 1010.5.1, [BE] 1010.5.1.1, 1010.5.1.2 (New), 1010.5.1.3 (New), [BE] 1010.5.2, [BE] 1010.5.3, [BE] 1010.5.4

Proponents: Daniel Nichols, MTA Construction and Development, MTA Construction and Development (dnichols@mnr.org)

2024 International Building Code

Revise as follows:

1010.5 Turnstiles, security access turnstiles ~~and~~or similar devices.
Turnstiles, security access turnstiles~~and~~or similar devices that restrict travel to one direction shall not be placed so as to obstruct any required *means of egress*, except where permitted in accordance with Sections 1010.5.1, 1010.5.2 and 1010.5.3.

Delete without substitution:

~~**1010.5.1 Capacity.**~~
~~Each turnstile or similar device shall be credited with a capacity based on not more than a 50-*person occupant load* where all of the following provisions are met:~~

1. ~~Each device shall turn free in the direction of egress travel when primary power is lost and on the manual release by an employee in the area.~~
2. ~~Such devices are not given credit for more than 50 percent of the required egress capacity or width.~~
3. ~~Each device is not more than 39 inches (991 mm) high.~~
4. ~~Each device has not less than 16 1/2 inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).~~

Add new text as follows:

1010.5.1 Turnstiles and Similar Devices. Turnstiles and similar devices shall comply with Sections 1010.5.1.1 through 1010.5.1.5.

1010.5.1.1 Dimensions. Each turnstile or similar device shall meet the following dimensional requirements:

1. Each device has not less than 16 1/2 inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).
2. Each manually operated device is not more than 39 inches in (991 mm) high.

1010.5.1.2 Operation. Each device shall operate freely in the direction of egress travel.

Exception: Free operation in the direction of egress travel is not required for power controlled devised that fail open when primary power is lost and on manual release by an employee in the area.

1010.5.1.3 Capacity. Each turnstile or similar device shall be credited with a capacity based on not more than a 50-person occupant load. The aggregate capacity of such devices shall not be credited for more than 50 percent of the required egress capacity or width.

Exception: Accessible turnstiles complying with Section 1010.5.1.4 shall be credited with a capacity based on the clear width and shall not be included when determining the 50 percent aggregate capacity limitation.

Revise as follows:

~~1010.5.1.1~~ **1010.5.1.4 Accessible Turnstile~~Clear Width~~.**
Where located as part of an *accessible route*, at least one turnstile ~~turnstiles~~ shall have not less than 36 inches (914 mm) clear width at and below a height of 34 inches (864 mm), not less than 32 inches (813 mm) clear width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

~~1010.5.4~~ **1010.5.1.5 Additional door.** Where serving an *occupant load* greater than 300, ~~each turnstile~~ turnstiles that ~~is~~ are not portable shall have a side-hinged swinging door that conforms to Section 1010.1 or a turnstile complying with 1010.5.1.4 within 50 feet (15 240 mm).

~~**Exception:** A side-hinged swinging door is not required at security access turnstiles that comply with Section 1010.5.2.~~

1010.5.2 Security access turnstiles.
Security access turnstiles that inhibit travel in the direction of egress utilizing a physical barrier shall be permitted to be considered as a component of the *means of egress*, provided that all of the following criteria are met:

1. The *building* is protected throughout by an *approved*, supervised *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Each security access turnstile lane configuration has a minimum clear passage width of 22 inches (559 mm).
3. Any security access turnstile lane configuration providing a clear passage width of less than 32 inches (810 mm) shall be credited with a maximum egress capacity of 50 *persons*.
4. Any security access turnstile lane configuration providing a clear passage width of 32 inches (810 mm) or more shall be credited with a maximum egress capacity as calculated in accordance with Section 1005.
5. Each secured physical barrier shall automatically retract or swing to an unobstructed open position in the direction of egress, under each of the following conditions:
   5.1. Upon loss of power to the turnstile or any part of the access control system that secures the physical barrier.
   5.2. Upon actuation of a clearly identified manual release device with ready access that results in direct interruption of power to each secured physical barrier, after which such barriers remain in the open position for not less than 30 seconds. The manual release device shall be positioned at one of the following locations:
      5.2.1. On the egress side of each security access turnstile lane.
      5.2.2. At an *approved* location where it can be actuated by an employee assigned to the area at all times that the *building* is occupied.
   5.3. Upon actuation of the *building fire alarm system*, if provided, after which the physical barrier remains in the open position until the *fire alarm system* is manually reset.
      Exception: Actuation of a *manual fire alarm box*.
   5.4. Upon actuation of the *building automatic sprinkler system* or fire detection system, after which the physical barrier remains in the open position until the *fire alarm system* is manually reset.

Revise as follows:

1010.5.3 High turnstile.
Turnstiles or similar devices more than 39 inches (991 mm) high and that are manually operated shall meet the requirements for revolving doors or the requirements of Section 1010.5.2 for security access turnstiles.

2024 International Fire Code

Revise as follows:

[BE] 1010.5 Turnstiles, security access turnstiles ~~and~~or similar devices.
Turnstiles, security access turnstiles~~and~~or similar devices that restrict travel to one direction shall not be placed so as to obstruct any

required *means of egress*, except where permitted in accordance with Sections 1010.5.1, 1010.5.2 and 1010.5.3.

Delete without substitution:

~~**[BE] 1010.5.1 Capacity.** Each turnstile or similar device shall be credited with a capacity based on not more than a 50-person *occupant load* where all of the following provisions are met:~~

1. ~~Each device shall turn free in the direction of egress travel when primary power is lost and on the manual release by an employee in the area.~~
2. ~~Such devices are not given credit for more than 50 percent of the required egress capacity or width.~~
3. ~~Each device is not more than 39 inches (991 mm) high.~~
4. ~~Each device has not less than 16 1/2 inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).~~

Add new text as follows:

1010.5.1 Turnstiles and Similar Devices. Turnstiles and similar devices that restrict travel into a building or portion thereof but do not control passage in the direction of egress travel shall comply with Sections 1010.5.1.1 through 1010.5.1.5.

1010.5.1.1 Dimensions. Each turnstile or similar device meet the following dimensional requirements:

1. Each device has not less than 16 1/2 inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).
2. Each manually operated device is not more than 39 inches in (991 mm) high.

1010.5.1.2 Operation. Each device shall operate freely in the direction of egress travel.

Exception: Free operation in the direction of egress travel is not required for power controlled devised that fail open when primary power is lost and on manual release by an employee in the area.

1010.5.1.3 Capacity. Each turnstile or similar device shall be credited with a capacity based on not more than a 50-person occupant load. The aggregate capacity of such devices shall not be credited for more than 50 percent of the required egress capacity or width.

Exception: Accessible turnstiles complying with Section 1010.5.1.4 shall be credited with a capacity based on the clear width and shall not be included when determining the 50 percent aggregate capacity limitation.

Revise as follows:

[BE] ~~1010.5.1.1~~ 1010.5.1.4 Accessible Turnstile ~~Clear width~~.
Where located as part of an *accessible route*, at least one turnstile ~~turnstiles~~ shall have not less than 36 inches (914 mm) clear width at and below a height of 34 inches (864 mm), not less than 32 inches (813 mm) clear width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

[BE] ~~1010.5.4~~ 1010.5.1.5 Additional door.
Where serving an *occupant load* greater than 300, ~~each turnstile~~ turnstiles that ~~is~~ are not portable shall have a side-hinged swinging door that conforms to Section 1010.1 or a turnstile complying with 1010.5.1.4 within 50 feet (15 240 mm).

~~**Exception:** A side-hinged swinging door is not required at security access turnstiles that comply with Section 1010.5.2.~~

[BE] 1010.5.2 Security access turnstiles.

Security access turnstiles that inhibit travel in the direction of egress utilizing a physical barrier shall be permitted to be considered as a component of the *means of egress*, provided that all of the following criteria are met:

1. The building is protected throughout by an *approved*, supervised *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Each security access turnstile lane configuration has a minimum clear passage width of 22 inches (559 mm).
3. Any security access turnstile lane configuration providing a clear passage width of less than 32 inches (810 mm) shall be credited with a maximum egress capacity of 50 persons.
4. Any security access turnstile lane configuration providing a clear passage width of 32 inches (810 mm) or more shall be credited with a maximum egress capacity as calculated in accordance with Section 1005.
5. Each secured physical barrier shall automatically retract or swing to an unobstructed open position in the direction of egress, under each of the following conditions:
   5.1. Upon loss of power to the turnstile or any part of the access control system that secures the physical barrier.
   5.2. Upon actuation of a clearly identified manual release device with ready access that results in direct interruption of power to each secured physical barrier, after which such barriers remain in the open position for not less than 30 seconds. The manual release device shall be positioned at one of the following locations:
      5.2.1. On the egress side of each security access turnstile lane.
      5.2.2. At an *approved* location where it can be actuated by an employee assigned to the area at all times that the building is occupied.
   5.3. Upon actuation of the building *fire alarm system*, if provided, after which the physical barrier remains in the open position until the *fire alarm system* is manually reset.
      Exception: Actuation of a manual fire alarm box.
   5.4. Upon actuation of the building *automatic sprinkler system* or fire detection system, after which the physical barrier remains in the open position until the *fire alarm system* is manually reset.

Revise as follows:

[BE] 1010.5.3 High turnstile.

Turnstiles or similar devices more than 39 inches (991 mm) high and that are manually operated shall meet the requirements for revolving doors or the requirements of Section 1010.5.2 for security access turnstiles.

Reason: The term “turnstiles” is a term that has generally referred to an array of devices intended to capture a fare or validate entry when entering a space. These requirements have been in the IBC since it’s inception without much change for their intended purpose. Additionally, “security access turnstiles” have been added to address those devices that can inhibit passage in the direction of egress. What remains is there is not a clear path to those types of turnstiles that are designed outside the traditional 3-arm turnstile with free passage to exit and security turnstiles. This proposal addresses such situations.

The intent of this proposal is to capture the following four basic topics:

1. 1010.5- You cannot block the required means of egress unless turnstiles, security turnstiles, or similar devices meet this section.
2. 1010.5.1- Turnstiles control access to a building but provide exiting without validation or control.
3. 1010.5.2- Security access turnstiles continue as needing validation or control to egress.
4. 1010.5.3- High turnstiles continue to meet either revolving door or security access turnstile requirements.

The drive for this change comes because of three separate initiatives where the section does not lend to improvements to egress:

Initiative 1, improving accessibility- The current 1010.5.1.1 requires “turnstiles” to be at least 36” wide and has been interpreted that it is all turnstiles. This limits the improvement of existing fare control to add a single accessible turnstile. Additionally, the wide turnstile cannot

be utilized as the additional exit required and minimizes the initiative to convert exit-only gates into accessible entrances.

Initiative 2, new technology- The currently turnstile language in 1010.5.1 lends that any portion of the turnstile above 39" is a high turnstile and then, by reference, makes it a security access turnstile. This is not a logical reference since the height of the barrier does not vary the ability to exit (unless there is a consideration to jump over a barrier). Newer technologies that are controlled actually increase egress capacity due to their not being an arm to push and minimizes the likelihood of the arm catching on bags, clothing, etc.

Initiative 3, access control vs. egress control- In many locations, access control with free egress is having security access applied due to its "user-friendliness" with new technology. The application of such for access-only control is overly burdensome with conditions, such as an automatic sprinkler system to protect a space that isn't even limited by turnstiles. When trying to upgrade existing fare arrays, the need for additional systems and controls is problematic and costly; especially when the free movement in the direction of egress has already been given a limitation on capacity and a second path of egress in most cases.

A step-by-step explanation of the change is published below (in italics):

1010.5 -*Added "Security Access Turnstiles" as a topic within 1010.5, which is currently not captured.***1010.5.1 -***Added section to describe what a turnstile does.*

1010.5.1.1 (previously 1010.5.1 #'s 3&4) *The section used to state "Each turnstile or similar device shall be credited with a capacity based on not more than a 50-person occupant load where all of the following provisions are met…." This language conflicts with Section 1010.5 since a turnstile either meets the requirements or is considering an obstruction to the egress. If a code user wants to utilize turnstiles that do not meet these requirements, they need to provide 100% egress capacity in another method, such as access-control doors. Regarding the 39-inch height, this is the area where the traditional arm that is manually pushed forward in located. The language has been revised to specifically address this manual component and meets the intent of the current language that currently regulates widths of the turnstile, as a whole, above 39 inches.*

1010.5.1.2 (previously 1010.5.1 #1) *Technology has changed regarding the actual barrier. When the barrier is not an arm, it still should operate freely under the same conditions as traditional turnstiles.*

1010.5.1.3 (previously 1010.5.1 main text and #2) *Since turnstiles have dimensions to be met, the capacity and 50% are carried over as currently required. Accessible turnstiles be given credit for egress capacity rather than part of the 50% turnstile reduction that narrower turnstile get.*

1010.5.1.4 (previously 1010.5..1.1) *This language has been modified to state "a turnstile" rather than the implicit all turnstiles the language currently reads.*

1010.5.1.5 (previously 1010.5.4) *Added language to acknowledge a wide turnstile can be utilized in the additional swinging door requirements. Added clarification to allow for a single door or wide turnstile to accommodate multiple turnstiles within an array.*

1010.5.2 - *no changes to Security access turnstiles.*

1010.5.3 - *Added language to match the 39-inch manual operator requirements.*

Cost Impact: Decrease

Estimated Immediate Cost Impact:

The proposal updates sections of the IBC/IFC that haven't been substantially updated since the beginning of the I-Codes but the methods of providing modern fare control have. As a general statement, this proposal decreases the soft costs of construction by having clear requirements between a "turnstile" and "security access turnstile" which, in turn, lessens the design time and approval process for newer technologies. As an example in New York State to receive an administrative variance for new turnstile technology (the lesser time of the three choices to receive a variance by regulation), the costs of the designer, regulator, and State reviewer (+ fees) is approximately $7,000 per application.

Additional costs would be:

Change for accessible turnstiles from "all turnstiles" to "a turnstile" would be in the area of $35,000 per turnstile, plus the 60-70% more floor area needed for the width.

Installation of a fire sprinkler system in an unconditioned belowground subway station due to application of security access turnstile vs. turnstile- $934,000 per platform

Estimated Immediate Cost Impact Justification (methodology and variables):

The justification for the immediate cost impact would be based upon actual costs of MTA projects over the last 36 months and estimating produced for projects in 2022.

E64-24

E65-24

IBC: 1010.5.1; IFC: [BE] 1010.5.1

Proponents: Daniel Nichols, MTA Construction and Development, MTA Construction and Development (dnichols@mnr.org)

2024 International Building Code

Revise as follows:

1010.5.1 Capacity.
Each turnstile or similar device shall be credited with a capacity based on not more than a 50-*person occupant load* where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost and on the manual release by ~~an employee in the area~~ a trained person in an approved method.
2. Such devices are not given credit for more than 50 percent of the required egress capacity or width.
3. Each device is not more than 39 inches (991 mm) high.
4. Each device has not less than $16\,^{1}/_{2}$ inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).

2024 International Fire Code

Revise as follows:

[BE] 1010.5.1 Capacity. Each turnstile or similar device shall be credited with a capacity based on not more than a 50-person *occupant load* where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost and on the manual release by ~~an employee in the area~~ a trained person in an approved method.
2. Such devices are not given credit for more than 50 percent of the required egress capacity or width.
3. Each device is not more than 39 inches (991 mm) high.
4. Each device has not less than $16\,^{1}/_{2}$ inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).

Reason: The use of turnstiles occurs in many locations such as transportation facilities, lobby control in access-limited buildings, and amusement locations. The current language states that turnstiles need to have a manual release by an "employee in the area", but provides no reasoning for the limitation to an employee, nor to a physical dimension of "in the area".

The proposal moves towards the need for trained personnel to be able to react and have that methodology approved by the AHJ. This could be as simple as a security desk having CCTV observation ability and a remote release for a control point at a building entrance out-of-view, to a multi-lane point of entry into an amusement park with a coordinated command center. Further, the proposal does not remove or inhibit the current use of the "employee in the area" for jurisdictions that already successfully utilize the section.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This provides another option to provide manual release of turnstiles. Many turnstiles already free spin or operate in the direction of egress, so this would provide options due to changes in technology.

E66-24

IBC: 1011.4; IFC: [BE] 1011.4

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1011.4 Walkline.
The walkline across *winder* treads and landings shall be concentric to the turn and parallel to the direction of travel entering and exiting ~~through~~ the turn and located 12 inches (305 mm) from the ~~side where the *winders* are narrower~~ inside of the turn. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear *stair* width at the walking surface of the *winder*. Where *winders* are adjacent within the *flight*, the point of the widest clear *stair* width of the adjacent *winders* shall be used.

2024 International Fire Code

Revise as follows:

[BE] 1011.4 Walkline. The walkline across *winder* treads and landings shall be concentric to the turn and parallel to the direction of travel entering and exiting ~~through~~ the turn and located 12 inches (305 mm) from the ~~side where the *winders* are narrower~~ inside of the turn. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear *stair* width at the walking surface of the *winder*. Where *winders* are adjacent within the *flight*, the point of the widest clear *stair* width of the adjacent *winders* shall be used.

Reason: This change provides specific guidance applicable to curved and spiral stairs and for certain residential stairs where winders are permitted within dwelling units. These changes will result in the same text related to winders as in the IRC since 2018.

In addition, it clarifies the walkline as related to determining landing depth at the walkline of intermediate landings of curved stairways where the walkline is referred to in exception 2 of Section 1011.6 Stairway landings.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed changes provide for correlation with IRC requirements as well as related IBC requirements without impacting the cost of construction.

E67-24

IBC: 1011.5.2; IFC: [BE] 1011.5.2

Proponents: Thomas Zuzik Jr, RailingCodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA.org) (coderep@railingcodes.com)

2024 International Building Code

1011.5 Stair treads and risers.
Stair treads and risers shall comply with Sections 1011.5.1 through 1011.5.5.3.

1011.5.1 Dimension reference surfaces.
For the purpose of this section, all dimensions are exclusive of carpets, rugs or runners.

Revise as follows:

1011.5.2 Riser height and tread depth.
Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the *nosings* of adjacent treads, ~~or~~ between the nosing of the ~~*stairway*~~ upper landing and the adjacent lower tread, and between the nosing of the bottom tread and a projected point forward on the lower landing equal to the bottom tread's depth. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. *Spiral stairways* in accordance with Section 1011.10.
2. *Stairways* connecting stepped *aisles* to cross *aisles* or concourses shall be permitted to use the riser/tread dimension in Section 1030.14.2.
3. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies not required by Chapter 11 to be *Accessible* or Type A dwelling or *sleeping units* ; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; the maximum riser height shall be $7\,^3/_4$ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum *winder* tread depth at the walkline shall be 10 inches (254 mm); and the minimum *winder* tread depth shall be 6 inches (152 mm). A *nosing* projection not less than $^3/_4$ inch (19.1 mm) but not more than $1\,^1/_4$ inches (32 mm) shall be provided on *stairways* with solid risers where the tread depth is less than 11 inches (279 mm).
4. See Section 503.1 of the International Existing Building Code for the replacement of existing *stairways*.
5. In Group I-3 *facilities*, *stairways* providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m^2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).
6. Where only a single riser is located between 2 landings, the riser height shall be measured between the upper landing's nosing and a projected point on the lower landing 11 inches (280 mm) forward of the upper landing's nosing.

2024 International Fire Code

[BE] 1011.5 Stair treads and risers.
Stair treads and risers shall comply with Sections 1011.5.1 through 1011.5.5.3.

[BE] 1011.5.1 Dimension reference surfaces. For the purpose of this section, all dimensions are exclusive of carpets, rugs or runners.

Revise as follows:

[BE] 1011.5.2 Riser height and tread depth.

Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the *nosings* of adjacent treads, ~~or~~ between the nosing of the ~~*stairway*~~ upper landing and the adjacent lower tread, and between the nosing of the bottom tread and a projected point forward on the lower landing equal to the bottom tread's depth. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. *Spiral stairways* in accordance with Section 1011.10.
2. *Stairways* connecting stepped *aisles* to cross *aisles* or concourses shall be permitted to use the riser/tread dimension in Section 1030.14.2.
3. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies not required by Chapter 11 to be *Accessible* or *Type A* dwelling or sleeping units; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; the maximum riser height shall be $7\frac{3}{4}$ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum *winder* tread depth at the walkline shall be 10 inches (254 mm); and the minimum *winder* tread depth shall be 6 inches (152 mm). A *nosing* projection not less than $\frac{3}{4}$ inch (19.1 mm) but not more than $1\frac{1}{4}$ inches (32 mm) shall be provided on *stairways* with solid risers where the tread depth is less than 11 inches (279 mm).
4. See Section 503.1 of the International Existing Building Code for the replacement of existing *stairways*.
5. In Group I-3 facilities, *stairways* providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m^2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).
6. Where only a single riser is located between 2 landings, the riser height shall be measured between the upper landing's nosing and a projected point on the lower landing 11 inches (280 mm) forward of the upper landing's nosing.

Reason: This code change is centered on clarifying where a bottom riser's, height measurement, is to be taken in conjunction with the lower landing.

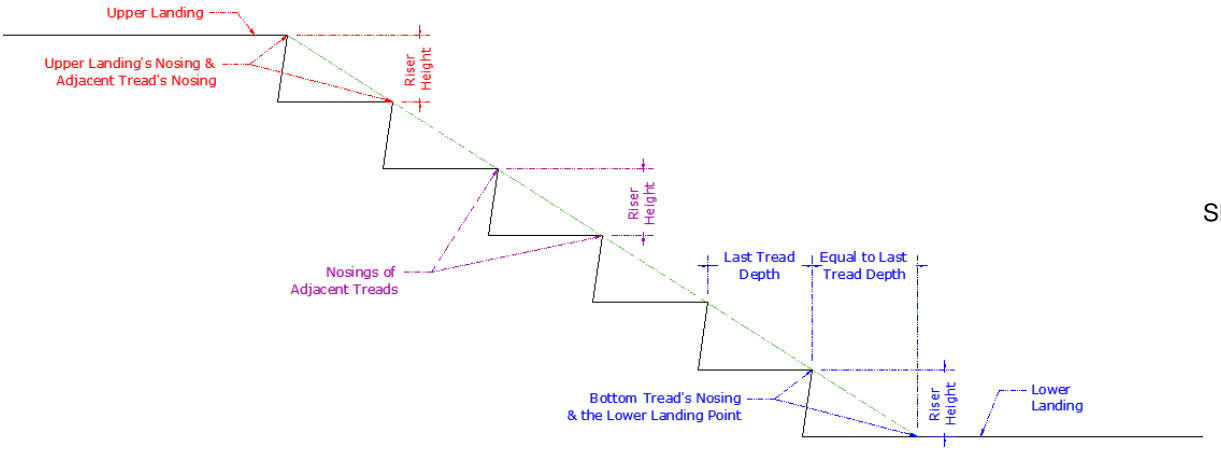
There are 3 distinct parts of a stair flight for when measuring riser heights.

1. The top landing's nosing, to the nosing of the first tread down, the adjacent tread.
2. The nosings of adjacent treads within the flight of stairs.
3. The bottom tread's nosing and the lower landing.

Currently the code is clear in that you are to measure from the upper landing's nosing to the adjacent lower tread's nosing, and to measure from the nosing of one tread to an adjacent tread within the flight, as they all have **nosings.** The confusion and or question comes in that the lower landing does not have a physical/traditional nosing point per say, as defined within the code, and as thus, many a times the bottom riser is measured directly at the bottom tread's riser and not at the same point in distance as every other riser within the flight of stairs, which are all measured to an **adjacent nosing**.

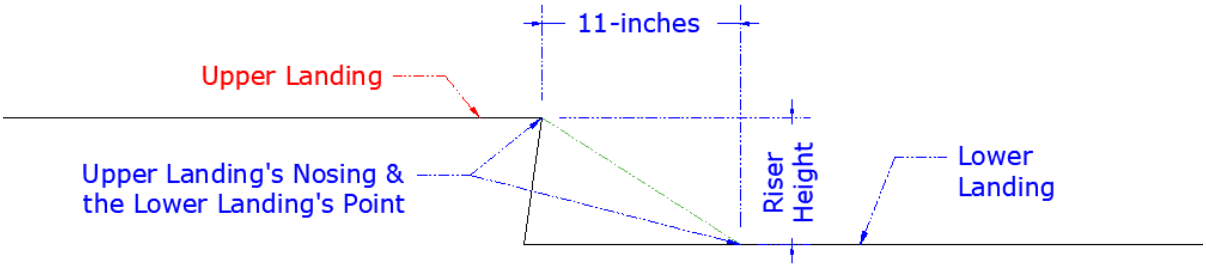
In Section 1014.7 Handrail extensions. The code requires that handrail extensions continue for one tread depth beyond the bottom tread's nosing, this is theorized to be for when descending or ascending the same area is used by the person on the stair flight. With this in our focus, this code change represents that the same theory and point justified and specified for the handrail extension, is to be used for the riser measurement on the lower landing, keeping in mind that this is the same measurement point used within the stair flight on all the other risers up to this point.

To help show a visual representation of the new text, sketch RC-01 included in this reason statement below shows the 3 distinct types of riser measurements within a flight of stairs, in conjunction with a superimposed nosing line as reference for a point of contact on the lower landing, proposed to being revised.



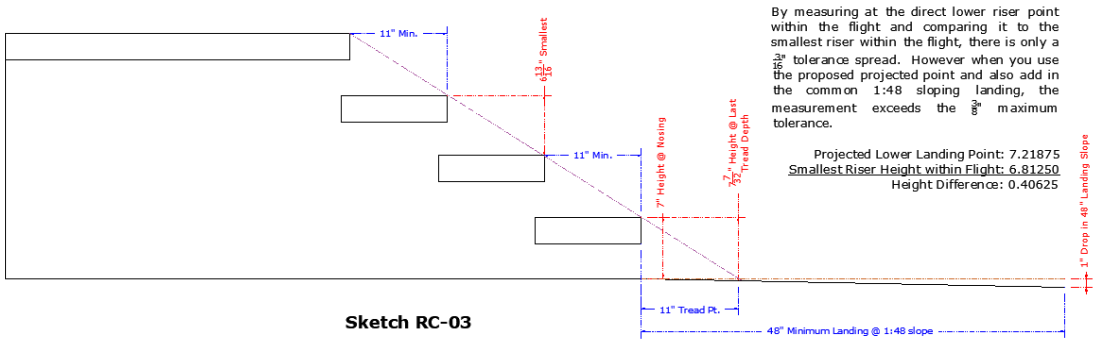
SKETCH RC-01

The second sketch RC-02 included in this reason statement is for the exception and explains the same point of measurement for when there is only one single riser between 2 landings and provides direction with the exception when there are no treads, by following the bottom tread requirement in a flight with the specified minimum tread depth of 11 inches for these specific single riser conditions.



SKETCH RC-02

Of note to keep in mind, If the smallest riser height within a flight is 6.8125", and the bottom riser height at the lower landing is 7", at the riser. And the lower landing slopes away at 1:48, 1/4" to the foot, then at the minimum 11" projected forward point you will be over the maximum 3/8" tolerance allowed per code, see sketch RC-03.



SKETCH RC-03

Bibliography:

- ICC Model 2024 IBC
  - Section 1011.7.1 Stairway walking surface.
  - Section 1014.7 Handrail extensions.
- 2010ADA
  - Section 504.4 Tread surface.
  - Section 505.10.
  - Section 505.10.3
- ICC 2017 A117.1

- Section 504.4 Tread surface.
- Section 505.10.
- Section 505.10.3

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

We believe that there are no cost increases or decrease with this code change, as it only further clarifies the measurement point of the required measurement for where the bottom riser height of a stair flight shall be taken.

E67-24

E68-24

IBC: 1011.5.5.1, 1011.5.5.2; IFC: [BE] 1011.5.5.1, [BE] 1011.5.5.2

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1011.5.5.1 Nosing projection size. The nosings shall project not more than $1^1/_4$ inches (32 mm) ~~beyond~~ over the trailing edge of the tread below

Exception: When solid risers are not required, the nosing projection is permitted to exceed the maximum projection.

1011.5.5.2 Nosing projection uniformity. Nosing projections of treads within a flight of stairs and of the landing at the top of the flight shall be of uniform size~~, including the projections of the *nosings* of the floor or landing at the top of a *flight*~~.

2024 International Fire Code

Revise as follows:

[BE] 1011.5.5.1 Nosing projection size. The nosings shall project not more than $1^1/_4$ inches (32 mm) ~~beyond~~ over the trailing edge of the tread below.

Exception: When solid risers are not required, the nosing projection is permitted to exceed the maximum projection.

[BE] 1011.5.5.2 Nosing projection uniformity.
Nosing projections of treads within a flight of stairs and of the landing at the top of the flight shall be of uniform size~~, including the projections of the *nosings* of the floor or landing at the top of a *flight*~~.

Reason: Nosing projection size.

Use of the preposition “over” is more accurate than “beyond”. Beyond is defined as indicating to the further side of. A tread’s nosing does not extend or project “to the further side of” the tread below but rather “over” just a small portion of the tread below. The term beyond as used here is inappropriate. Deleting beyond and adding “over the trailing edge” clarifies for enforcement the point on the tread below from which the nosing projection of the tread above can be measured.

Nosing projection uniformity.

The proposal further clarifies the requirement with more direct/concise sentence structure that will result in more consistent understanding and enforcement.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The language substitutions and changes in syntax add no technical requirements that are material to construction methodology and will neither increase or decrease the cost of construction.

E69-24

IBC: 1011.6; IFC: [BE] 1011.6

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1011.6 Stairway landings. There shall be a ~~floor or~~ landing at the top and bottom of each ~~*stairway*~~ *flight* of stairs. The width of landings, measured perpendicularly to the direction of travel of the flight served , shall be not less than the width of ~~*stairways*~~ the flight served. ~~Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to depth of landings shall be measured in the direction of travel of the flight served and shall be not less than the width of the *stairway* or 48 inches (1219 mm), whichever is less.~~ Where there is a change in direction of the stairway at the landing, the landing depth shall be not less than the smallest width of the flights served. Where there is no change in direction of the stairway at the landing, the landing depth shall be 48 inches (1219 mm) minimum. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where *wheelchair spaces* are required on the *stairway* landing in accordance with Section 1009.6.3, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*.

Exceptions:

~~2~~1. Where curved *stairways* of constant radius have intermediate landings, the landing depth shall be measured horizontally between the intersection of the walkline of the lower *flight* at the landing *nosing* and the intersection of the walkline of the upper *flight* at the *nosing* of the lowest tread of the upper *flight*.

~~3~~2. Where a landing turns 90 degrees (1.57 rad) or more, the minimum landing depth in accordance with this section shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the *flight* served.

~~1~~3. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1030.

2024 International Fire Code

Revise as follows:

[BE] 1011.6 Stairway landings. There shall be a ~~floor or~~ landing at the top and bottom of each ~~*stairway*~~ *flight* of stairs. The width of landings, measured perpendicularly to the direction of travel of the flight served , shall be not less than the width of ~~*stairways*~~ the flight served. ~~Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to depth of landings shall be measured in the direction of travel of the flight served and shall be not less than the width of the *stairway* or 48 inches (1219 mm), whichever is less.~~ Where there is a change in direction of the stairway at the landing, the landing depth shall be not less than the smallest width of the flights served. Where there is no change in direction of the stairway at the landing, the landing depth shall be 48 inches (1219 mm) minimum. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where *wheelchair spaces* are required on the *stairway* landing in accordance with Section 1009.6.3, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*.

Exceptions:

~~2~~1. Where curved *stairways* of constant radius have intermediate landings, the landing depth shall be measured horizontally between the intersection of the walkline of the lower *flight* at the landing *nosing* and the intersection of the walkline of the upper *flight* at the *nosing* of the lowest tread of the upper *flight*.

~~3~~2. Where a landing turns 90 degrees (1.57 rad) or more, the minimum landing depth in accordance with this section shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the *flight* served.

~~1~~3. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1030.

Reason: It is important to note here that by definition in the IBC a stairway includes the flights and landings. A landing may occur at the top or bottom of a flight or between flights of a stairway not only at the top and bottom of a stairway. Substituting *flight* for *stairway* offers the correct description using the terms as defined.

Stairway. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

Flight. A continuous run of rectangular treads, winders or combination thereof from one landing to another.

A stairway may turn at any of these landing locations. The current language refers to the direction of travel but fails to provide a reference location or perspective. Width and depth reverse with ascent and descent on a 90 degree, or quarter space landing. Is the direction of travel to be considered an arc through the turn on the landing or the direction of travel across a landing adjoining two flights at a 180 degree, or half space landing. What is width and what is depth? If there are multiple flights adjoining the landing determining the direction of travel and the width or depth is confusing at best. By referencing the direction of the flight served and the change of the direction of the stairway the depth and width are more clearly understood.

The current text by the most grievous interpretation might imply that the landing may be just 48 inches in depth in situations not intended. We have corrected this anomaly by clarifying that the 48" minimum only applies to stairways that do not change direction a the landing.

The proposed language eliminates trying to distinguish width and depth axes that can reverse with ascent and descent more clearly describes the intent of the width and depth requirements.

Exception 1 has been moved to exception 3 without change because it is likely less common in terms of general use and application when compared to the other exceptions.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The changes proposed serve to restructure and correct the technical requirements for landings to aid interpretation and enforcement without material change to the methods or costs of construction.

E69-24

E70-24

IBC: 1011.7.1 (New), 1012.7.1 (New); IFC: 1011.7.1 (New), 1012.7.1 (New)

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Add new text as follows:

1011.7.1 Stairway Supporting Construction. *Stairway* supporting construction shall have a fire resistance rating equivalent to the rating of the enclosure or separation required by Sections 1023.2 and 1027.6.

Exception: *Stairway* supporting construction located within the fire resistance rated enclosure or exterior to the building does not require a fire resistance rating.

1012.7.1 Ramp Supporting Construction. *Ramp* supporting construction shall have a fire resistance rating equivalent to the rating of the enclosure or separation required by Sections 1023.2 and 1027.6.

Exception: *Ramp* supporting construction located within the fire resistance rated enclosure or exterior to the building does not require a fire resistance rating.

2024 International Fire Code

Add new text as follows:

1011.7.1 Stairway Supporting Construction. *Stairway* supporting construction shall have a fire resistance rating equivalent to the rating of the enclosure or separation required by Sections 1023.2 and 1027.6.

Exception: *Stairway* supporting construction located within the fire resistance rated enclosure or exterior to the building does not require a fire resistance rating.

1012.7.1 Ramp Supporting Construction. *Ramp* supporting construction shall have a fire resistance rating equivalent to the rating of the enclosure or separation required by Sections 1023.2 and 1027.6.

Exception: *Ramp* supporting construction located within the fire resistance rated enclosure or exterior to the building does not require a fire resistance rating.

Reason: NOTE: These two new sections are intended to be directly following the charging sections, 1011.7 and 1012.7, respectively. The following sections remain unchanged and should follow these new sections.

There is a requirement for stairway and ramp enclosures to be constructed with fire barriers in accordance with IBC Section 1023.2. This requires the supporting construction for the enclosure to be protected to afford the required fire resistance rating of the fire barrier supported in accordance with IBC Section 707.5.1.

Stair and ramp enclosures should be supported in accordance with the fire resistance rating of the enclosure to assist in the egress of occupants and response of first responders. However, this does not currently extend to the landings and stairway/ramp construction which may extend beyond the enclosure into the building. For example, a four-story exit enclosure in a Type II-B building would be provided with a 2-hour fire resistance rating and associated supporting construction. However, if the specific landing supports extend beyond the enclosure, the associated landing supports are not required to be protected. The intent is an exit enclosure to be provided with structural fire protection and reliability and it should extend to the elements which support occupants within that enclosure that are not protected by the enclosure.

The reasoning for locating the requirement in these sections is it would be applicable to stairway and ramp construction (both interior and

exterior) that have supporting construction which extends into the building and may be unprotected.

Cost Impact: Increase

Estimated Immediate Cost Impact:

For a single 5-story stair utilizing this design strategy quotes were received for $15,000-$32,000 to provide fireproofing to these supporting structural members. It should be reiterated that other structural design strategies are available which would not represent a cost increase for this scenario. The cost, if present, is immediate with no significant life-cycle cost anticipated.

Estimated Immediate Cost Impact Justification (methodology and variables):

This is not considered a cost increase for all stair/ramp enclosures where stairway/ramp construction are located within the exit enclosure or in circumstances where the enclosure supporting construction is shared with the stairway/ramp. The cost impact for providing fire resistance to supporting construction of stairways/ramps that extend beyond the enclosure is dependent upon numerous factors including number/size of supporting members, method of fire protection and required fire resistance rating.

A case study was developed which may represent a cost increase as a portion of the cost impact statement. Conservatively a 5 story Type II-B (non-rated non-combustible steel building) which could be found in a Group R-2 sprinklered occupancy type building was considered. This would require a 2-hour fire rated separation for the stairway and associated supporting construction which exited the stair enclosure as identified in this proposal. The proposal team worked with a structural engineer on a structural design which would be utilized to support the stairway construction and provided this information to spray-applied fireproofing contractors for pricing.

Additional supporting cost information can be found at the FTP below:

https://files.coffmanftp.comUser name: ICC@coffmanftp.com

Password: G10G7Vw84rjq

E70-24

E71-24

IBC: 1011.7.1; IFC: [BE] 1011.7.1

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1011.7.1 Stairway walking surface.
The walking surface of treads and landings of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. ~~Openings~~Perforations in *stair* walking surfaces shall be a size that does not permit the passage of $^1/_2$-inch-diameter (12.7 mm) sphere. Elongated ~~openings~~ perforations shall be placed so that the long dimension is perpendicular to the direction of travel.
2. Where open risers are permitted the open ends of treads that do not extend to the face of the guard infill or wall shall extend to a point not more than 2 inches (51 mm) measured horizontally from the face of the guard infill or wall.
3. ~~2~~In Group F, H and S occupancies, other than areas of parking *structures* accessible to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^1/_8$ inches (29 mm) cannot pass through the opening.

2024 International Fire Code

Revise as follows:

[BE] 1011.7.1 Stairway walking surface.
The walking surface of treads and landings of a *stairway* shall not be sloped steeper than 1 unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. ~~Openings~~Perforations in *stair* walking surfaces shall be a size that does not permit the passage of $^1/_2$-inch-diameter (12.7 mm) sphere. Elongated ~~openings~~ perforations shall be placed so that the long dimension is perpendicular to the direction of travel.
2. Where open risers are permitted the open ends of treads that do not extend to the face of the guard infill or wall shall extend to a point not more than 2 inches (51 mm) measured horizontally from the face of the guard infill or wall.
3. ~~2~~In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^1/_8$ inches (29 mm) cannot pass through the opening.

Reason: Although a tread has a solid surface the end of a tread often ends without actually abutting any surface. Such is the case on many open stairs or where open risers are allowed. Opening limitations in guards regulating the vertical plane are not applicable to the horizontal walking surface. This addition to the exception for openings in stair walking surfaces will provide much needed guidance for design and enforcement when the tread does not extend under the guard system or abut a wall, skirtboard, or other vertical surface. The 2 inch limit is reasoned as the maximum standoff used and is considerably smaller than the smallest of shoe sizes for children of 2 -6 months.

Common applications are pictured:

Illustration A: Glass panel is attached to the ends of treads with “standoff” hardware leaving a narrow gap between the glass panel and the extreme end of the tread.

Illustration B: Shows the an open riser mono stringer stair with open ended treads.

In each case the exposed area is well out of the path of travel.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change provides specific technical requirements that provide clarification for enforcement of a common and highly desired design aesthetic without change to methods of construction or related costs of construction of the stair.

E71-24

E72-24

IBC: 1011.7.1; IFC: [BE] 1011.7.1

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1011.7.1 Stairway walking surface.
The walking surface of treads and landings of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $^{1}/_{2}$-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking *structures* accessible to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^{1}/_{8}$ inches (29 mm) cannot pass through the opening.
3. Where a nonuniform height riser is permitted in accordance with Section 1011.5.4.1, the slope of the established grade, parallel to the riser, serving as the landing shall not exceed one unit vertical in 12 units horizontal (8-percent slope).

1011.5.4.1 Nonuniform height risers.
Where the bottom or top riser adjoins a sloping *public way*, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of *stair* width. The *nosings* at such nonuniform height risers shall have a distinctive marking stripe, different from any other *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair*. Marking stripes shall have a width of not less than 1 inch (25 mm) but not more than 2 inches (51 mm).

2024 International Fire Code

Revise as follows:

[BE] 1011.7.1 Stairway walking surface.
The walking surface of treads and landings of a *stairway* shall not be sloped steeper than 1 unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $^{1}/_{2}$-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided that a sphere with a diameter of $1^{1}/_{8}$ inches (29 mm) cannot pass through the opening.
3. Where a nonuniform height riser is permitted in accordance with Section 1011.5.4.1, the slope of the established grade, parallel to the riser, serving as the landing shall not exceed one unit vertical in 12 units horizontal (8-percent slope).

[BE] 1011.5.4.1 Nonuniform height risers.
Where the bottom or top riser adjoins a sloping *public way*, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of

the bottom or top riser not to exceed 1 unit vertical in 12 units horizontal (8-percent slope) of *stair* width. The nosings at such nonuniform height risers shall have a distinctive marking stripe, different from any other *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair*. Marking stripes shall have a width of not less than 1 inch (25 mm) but not more than 2 inches (51 mm).

Reason: Every flight of stairs must have landing at the top and bottom that must not slope steeper than 1:48. An exception is needed to provide for a stair landing to exceed the maximum slope where nonuniform height risers are allowed. Although the nonuniform riser is allowed when properly marked the landing is technically not permitted to slope more than 2 percent. The text of the new exception 3 parallels that of the cross-referenced section **1011.5.4.1 Nonuniform height risers** that requires a distinctive marking stripe and provides for a riser height less than the 4-inch minimum as required in **1011.5.2 Riser height and tread depth.**

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change only offers an exception for a condition that is already recognized. The code allows a certain nonuniform height riser where it meets a sloped landing but fails to assure consistent interpretation and enforcement of the adjoining landing. This change results in no material change that will increase or decrease the cost of construction.

E72-24

E73-24

IBC: 1011.7.2 (New), 1011.7.2.1 (New), 1011.7.2.2 (New); IFC: 1011.7.2 (New), 1011.7.2.1 (New), 1011.7.2.2 (New)

Proponents: Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com); Brittany Lynch, Clanton & Associates, Clanton & Associates (brittany@clantonassociates.com); Eunice Noell-Waggoner, President, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com); Harold Jepsen, Legrand (harold.jepsen@legrand.com)

2024 International Building Code

Add new text as follows:

1011.7.2 Markings on stairways. Egress path markings shall be provided on interior and exterior stairways in accordance with Sections 1011.7.2.1 and 1011.7.2.2.

Exceptions:

1. Stairways within individual dwelling units.
2. Stairways with stripes complying with Section 1025.

1011.7.2.1 Steps. A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Stripes shall be a solid color having a visual contrast of dark-on-light or light-on dark from the remainder of the tread or landing surface. Stripes have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 3 inches (76 mm). The leading edge of the stripe shall be placed not more than ½ inch (12.7 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than 1/2 inch (12.7 mm) down the vertical face of the step. The stripe shall be of material that is at least as slip resistant as the other tread surface.

1011.7.2.2 Landings. The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

2024 International Fire Code

Add new text as follows:

1011.7.2 Markings on stairways. Egress path markings shall be provided on interior and exterior stairways in accordance with Sections 1011.7.2.1 and1011.7.2.2.

Exceptions:

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1011.7.2.1 Steps. A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Stripes shall be a solid color having a visual contrast of dark-on-light or light-on dark from the remainder of the tread or landing surface. Stripes have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 3 inches (76 mm). The leading edge of the stripe shall be placed not more than ½ inch (12.7 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than 1/2 inch (12.7 mm) down the vertical face of the step. The stripe shall be of material that is at least as slip resistant as the other tread surface.

1011.7.2.2 Landings. The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

Reason: From Cohen and Pauls (2006) they cite the following statistics about stair safety. *"According to the National Public Services*

Research Institute, in 1995, it was estimated that stair-related injuries in the United States were associated with comprehensive costs of $50 billion, including $4.7 billion in medical costs, $7.1 billion in productivity losses, and $38.1 billion in quality of life losses (T. Miller, Personal Communication. 1998). Even the smallest of these component costs is astonishing relative to annual stair construction costs in the United States; these are only approximately $5 billion. With the possible exception of products, such as handguns, tobacco and illegal drugs, this 10-to-l ratio of injury costs to product production costs is extraordinary."

Cohen and Pauls also note that increasing quantity of lighting alone is not sufficient to incease the visibility of the edge of the stair tread. *"In addition to lighting, there are other important factors in visibility of steps, including careful choice of stairway covering materials to avoid patterns that tend to camouflage the step nosings and the critical leading edges of treads. and to use highly contrasting tread markings."*

The Illuminating Engineering Society's Recommended Practice for Lighting and the Visual Environment for Older Adults and the Visually Impaired (IES-RP-28-20) notes the following concerning the use of reflectance contrast for increasing visibility: *Value contrast should be a design consideration in the selection of finishes for corridors, stairs, lobbies and spaces that become part of the path of egress. Contrast helps to define the space and the elements within the space, e.g., doorways, changes of floor level or direction, and obstructions such as columns, to increase visibility and the occupant's confidence. Everyone's sight benefits from value contrast in low-light conditions, regardless of age or visual acuity.*

The IES also recommends that *"All stairs should have clearly marked edge strips, staircase borders, and handrails to meet the needs of older people and persons with low vision."*

Similar to what has been recommended by Cohen and Pauls and the Illuminating Engineering Society, this proposal would increase the safety of stairways by increasing the reflectance contrast (and thus the luminance contrast) by requiring colored stripes on the nosing or leading edges of stairs. The difference in reflectance between the edge stripe and the rest of the stair tread will to increase the visibility of the edge of the stair. These colored stripes would be one to two inches wide on the edge of nosing the stair. This proposal is written the same format as the requirement as IBC *Section 1011.5.4.1 Nonuniform height risers*. However the distinguishing difference between stripes on nonuniform height risers and those proposed for all other stairs is "nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight."

The description of the marking stripes are written to be in alignment with ANSI/ICC 117.1 Accessibility Standard Section 504.6 "Visual Contrast". Addtionally this proposal modifies both Section 1011.5.4.1 and 1011.7.1 on the geometrical description of the contrasting marking stripe. Originally the stripe is defined as being one to two inches wide, this proposal more clearly defines the stripes as being one to two inches in depth and having a width that extends the width of the stair tread.

Bibliography: ANSI/IES RP-28-20. *Recommended Practice: Lighting and the Visual Environment for Older Adults and the Visually Impaired.* Illuminating Engineering Society. New York.

Cohen, Harvey and Pauls, Jake. *Warnings and Markings for Stairs and Pedestrian Terrain*. **Handbook on Warnings.** In: Michael Wogalter (Ed.),Lawrence Erlbaum, Inc., 2006, pp. 711-722.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The lowest cost method for adding a stripe to stairs is painting a stripe. However to provide conservatively high estimate we have used the cost of adding a metal nosing strip to the tread of each stair and on the nosing of the landing above a stair. From estimates of costs published on the internet the costs of aluminum stair nosing are $6 to $21 per linear foot. https://kofflersales.com/product/metal-stair-nosing Similar costs are found on Grainger's and Lowes websites.

Using a medium costs of $12.50/linear foot, the material cost of adding an aluminum nosing to a 4 foot wide tread is $50/stair. According one home improvement website, "A beginner can install a nosing on a tread in 15 to 30 minutes." https://www.thespruce.com/installing-a-stair-nosing-strip-1822570 According to the US Bureau of Labor Statistics, the Mean Labor wage for carpenter, US average May 2022 is $ 27.99/hr https://www.bls.gov/oes/current/oes472031.htm Thus the labor cost is $14 per step to install a $50 nosing strip for a total

installed cost of $64/stair tread. With 50% overhead and profit for carpenters (2020 RS Means), total cost is $96 per installed 4 foot wide nosing. For a 12 foot tall story, with 6 inch risers per step, there are 24 nosings with an installed cost of 24 x $96 = $2,304 per story.

This cost for nosings is compared against the cost adding stairs per story. In the Economics of Egress Alternatives and Life-Safety Costs, NIST Special Publication 1109. September 2010. Gaithersburg, Maryland (https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication1109.pdf) describes the costs of adding an additional exit stair to a 13 story prototypical building as follows: "The baseline value for the life-cycle costs of installing an additional exit stair in Building 2 ranges from $1.5 million for the 44 in (112 cm) stair width to $2.4 million for the 66 in (168 cm) stair width." The cost per story of this added exit stair is $1.5 Million/ 12 = $125,000 per story. The fractional cost of adding aluminum stair nosings strips is $2,300/$125,000 = 1.8

Estimated Immediate Cost Impact Justification (methodology and variables):

Adding striping to stairs increases the cost of stairs by 1.8%. However, this cost is offset by the societal savings associated with avoiding trip and fall hazards on stairways.

Estimated Life Cycle Cost Impact:

In Cohen and Pauls, Warnings and Markings for Stairs and Pedestrian Terrain (see bibliography), they estimate that the ratio of the cost of annual injuries on stairs to the annual cost of stair construction is 10 to one. The annual construction rate of nonresidential buildings is 1.3% (table B7 of the US EIA 2012 Commercial Buildings Energy Consumption Survey). Thus the annual value of injuries on stairs are 10 x 0.013 = 13% of the value of the stock of all stairs. Assuming that metal nosing lasts at least 10 years, the ratio of the value of injuries on stairs over 10 years to cost of the stairs is 10 x 13% = 130% of the value of the stairs. As described in the cost impact statement, a conservatively high estimate of the cost of stair striping is 1.8% of total stair cost. Thus, the ratio of the cost of stair striping to the cost of injuries on stairs is 1.8%/130% = 1.4%. If stair striping reduces injuries on stairs, by 1.4% this will pay for the added cost of striping stairs by adding an aluminum nosing that is conspicuously different than the reflectance of the rest of the stair tread. Given the mechanisms of how falls are induced on stairs, we expect that stair striping will reduce the percentage of falls significantly more than 1.4%.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

If the striping reduces falls in stairs by any amount greater than 1.4%, life cycle cost is decreased.

In Cohen and Pauls, Warnings and Markings for Stairs and Pedestrian Terrain, they identify three factors to stair safety.

1. visibility of the stair flight and its individual steps, especially when viewed in descent;

2. adequacy and uniformity of step dimensions in relation to human gait; and

3. availability of reachable, graspable handrails that also provide accurate visual cues about the presence and location of steps.

Items 2 is addressed by IBC Section 1011.5. Item 3 is addressed by IBC section 1011.11. Visibility is only partially addressed by illuminance requirements in IBC Section 1008. Critical to visibility of steps is the luminance contrast of the tread edge; luminance contrast is the ratio of reflected light from the stair edge as compared to other surfaces on the stair. When stairs are uniformly illuminated, luminance contrast is a function of reflectance contrast of the stair edge from the surrounding tread and riser. Increasing illuminance without adjusting the ratios of surface reflectances of stair edge from its surroundings does not increase luminance contrast because with increasing illuminance, the luminance of both the stair edge and its surroundings will both rise proportionately and thus the ratio of the stair edge to its surroundings have not changed. We expect that lack of reflectance contrast is a significant cause of falls on stairs and thus addressing this issue will result in substantially more savings associated with avoided injuries and deaths than its first cost. Reducing stairway falls by only 1.4% will pay for the cost of the stair striping. See the calculations below for the rationale.

E74-24

IBC: 1011.7.2 (New), 1011.7.2.1 (New), 1011.7.2.2 (New), 1011.7.2.3 (New), ASTM Chapter 35 (New); IFC: 1011.7.2 (New), 1011.7.2.1 (New), 1011.7.2.2 (New), 1011.7.2.3 (New), ASTM Chapter 80 (New)

Proponents: Eunice Noell-Waggoner, Center of Design for an Aging Society, IES Lighting for Seniors and the Visually Impaired Committee (eunice@centerofdesign.org); Jonathan McHugh, McHugh Energy Consultants Inc., California Investor Owned Utilities (jon@mchughenergy.com); Nancy Clanton, Clanton & Associates, Inc, Clanton & Associates, Inc. (nancy@clantonassociates.com)

2024 International Building Code

Add new text as follows:

1011.7.2 Markings on stairways. Egress path markings shall be provided on interior and exterior stairways in accordance with Sections 1011.7.2.1 through 1011.7.2.3.

Exceptions:

1. Stairways within individual dwelling units.
2. Stairways with stripes complying with Section 1025.

1011.7.2.1 Steps. A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Stripes shall be a solid color having a visual contrast of dark-on-light or light-on dark from the remainder of the tread or landing surface. Stripes have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 3 inches (76 mm). The leading edge of the stripe shall be placed not more than ½ inch (12.7 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than 1/2 inch (12.7 mm) down the vertical face of the step. The stripe shall be of material that is at least as slip resistant as the other tread surface.

1011.7.2.2 Landings. The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

1011.7.2.3 Light reflectance. The stripe light reflectance value (LRV) and the tread surface LRV shall be determined in accordance with ASTM E1331. The stripe LRV shall comply with one of the following:

1. Stripe LRV shall be no less than stair tread LRV plus 65.
2. Stripe LRV shall be no greater than stair tread LRV minus 65.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

E1331-15 (2019)	Standard Test Method for Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry

2024 International Fire Code

Add new text as follows:

1011.7.2 Markings on stairways. Egress path markings shall be provided on interior and exterior stairways in accordance with Sections 1011.7.2.1 through 1011.7.2.3.

Exceptions:

1. Stairways within individual dwelling units.
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1011.7.2.1 Steps. A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Stripes shall be a solid color having a visual contrast of dark-on-light or light-on dark from the remainder of the tread or landing surface. Stripes have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 3 inches (76 mm). The leading edge of the stripe shall be placed not more than ½ inch (12.7 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than 1/2 inch (12.7 mm) down the vertical face of the step. The stripe shall be of material that is at least as slip resistant as the other tread surface.

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1. Stripe LRV shall be no less than stair tread LRV plus 65.
2. Stripe LRV shall be no greater than stair tread LRV minus 65.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

E 1331-15	ASTM E1331-15 (2019) Standard Test Method for Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry

Staff Analysis: A review of the standard proposed for inclusion in the code, ASTM E113-15(2019) Standard Test Method for Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

Reason: The Importance of Contrast on Stairs

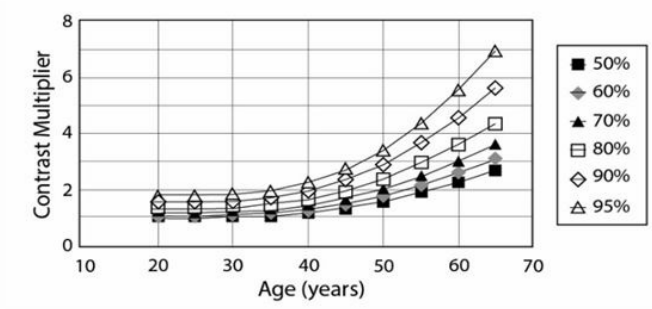
Expanding Baby Boom Cohort: (Official Website of the U.S. Government, Report No. P25-1141)

- By 2029 20% of the US population will be over age 65.
- By 2056 the US population 65+will be larger than the population under 18 years.
- Why aren't building codes keeping pace with the requirement for our aging population?

Age-Related Vision Changes: Sensory loss is the most common aspect of aging; however, perception problems (e.g. vision and hearing) are not easily recognized by others or addressed in the built environment.

- **Low Vision is prevalent in the older population** and increases dramatically at the age of 70. Defined as 20/60 in the better seeing eye, and cannot be corrected with glasses, contact lenses, medicine, or surgery. (National Eye Institute, Low Vision 2010)
- **We see by visual contrast** and as people age, they experience a loss of contrast sensitivity.
- **Contrast sensitivity, not visual acuity, is associated with gait and fall related risk factors in older adults.** Research article: Duggan et al (2017) Time to refocus assessment of vision in older adults? Contrast sensitivity, but not visual acuity is associated with the gait of older adults. Journal of Gerontology :Medical Sciences doi: 10.1093/geona/glx21

Contrast Multiplier vs. Age



This summary plot of contrast multiplier vs. age for various population ages shows how much the contrast of a task needs to be increased to compensate for reduced image quality on the eye's retina, because of filtering changes in the aged human lens. For example, an average (50% population curve) 60 y/o requires about 2.3 times as much contrast to have the same image contrast on the retina as does a 20 y/o. If 95% of 60 y/o are to be accommodated, the contrast needs to be increased by 5.5 times. (Reference: ANSI/IES RP-28-20, Figure 2-1) Copyright: Illuminating Engineering Society (IES) Used by permission of the IES:6-3-22

Falls and stair negotiation in older people and their relationship with vision The prevalence and morbidity of falls (NIH National Library of Medicine, National Center for Biotechnology Information). Falls are a common and very serious problem for older adults, with approximately one-third of community-dwelling, healthy adults aged 65 years and over falling at least once per year, and with up to half of these people experiencing multiple falls. Annual falls rates increase to about 50% in people aged 85 years and over. Approximately 25% of falls result in an injury ranging from minor bruising to hip fracture. Hip fractures are a particularly severe consequence of falling, with the 1-year mortality rate following hip fracture being about 25%. In addition, 80% of surveyed older women suggested that they would rather be dead than experience the loss of independence and quality of life that results from a hip fracture and subsequent admission to a nursing home. Falls and hip fractures are mentioned as a contributing factor in 40% of admissions to long-term nursing and residential home care. Furthermore, even non-injurious falls have significant consequences, as they can lead to a fear of falling, which, in turn, results in a self-imposed restriction of functional activity, decreased mobility and independence, social isolation, deteriorating health, depression and reduced quality of life. **Incidences of falling in older people have been consistently linked to problems with step or stair negotiation.** Changes in visual acuity may be more associated with falls than the actual level of visual acuity, and other aspects of vision (such as visual field assessments, contrast sensitivity and stereoacuity are likely to be more important risk factors than visual acuity for falls.

According to CDC data, 38.6% of senior falls occur on level ground, but a significant 5.5% of all senior falls occur on stairs or steps.

Falls in Older Adults - Older People's Health Issues Merck Manuals https://www.merckmanuals.com › home › falls-in-older-...After a fall, injuries are common and tend to be more severe as people age. Over half of all falls result in at least a slight injury, such as a bruise, sprained ligament, or strained muscle. More serious injuries include broken bones, torn ligaments, deep cuts, and damage to organs such as the kidney or the liver.

The information cited in Cohen and Pauls (2006) is still valuable. The information provided above is focus on age-related changes to vision and the risk factor for falls on stairs due to these changes.

Contrast at the edge of stair treads defines where to safely step and helps prevent falls. Cohen and Paul also note that increasing quantity of lighting alone is not sufficient to increase the visibility of the edge of the stair tread. "In addition to lighting, there are other important factors in visibility of steps, including careful choice of stairway covering materials to avoid patterns that tend to camouflage the step nosings and the critical leading edges of treads. **and to use highly contrasting tread markings.**"

The Illuminating Engineering Society's Recommended Practice for Lighting and the Visual Environment for Older Adults and the Visually Impaired (IES-RP-28-20) notes the following concerning the use of reflectance contrast for increasing visibility: Value contrast should be a design consideration in the selection of finishes for corridors, stairs, lobbies and spaces that become part of the path of egress. Contrast helps to define the space and the elements within the space, e.g., doorways, changes of floor level or direction, and obstructions such as columns, to increase visibility and the occupant's confidence. Everyone's sight benefits from value contrast in low-light

conditions, regardless of age or visual acuity.The

IES also recommends that "*All stairs should have clearly marked edge strips, staircase borders, and handrails to meet the needs of older people and persons with low vision*."

Similar to what has been recommended by Cohen and Pauls and the Illuminating Engineering Society, this proposal would increase the safety of stairways by increasing the visual contrast (and thus the luminance contrast) by requiring contrast stripes on the nosing or leading edges of stairs. The difference in reflectance between the edge stripe and the rest of the stair tread will increase the visibility of the edge of the stair. These contrasting stripes would be one to two inches wide on the edge of nosing the stair but would allow 3" wide nosing on concrete stairs to provide adequate attachment to the tread. This proposal is written the same format as the requirement as IBC Section 1011.5.4.1 Nonuniform height risers. However the distinguishing difference between stripes on nonuniform height risers and those proposed for all other stairs is "nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight."

The description of the marking stripes are written to be in alignment with ANSI/ICC 117.1 Accessibility Standard Section 504.6 "Visual Contrast". Additionally this proposal modifies both Section 1011.5.4.1 and 1011.7.1 on the geometrical description of the contrasting marking stripe. Originally the stripe is defined as being one to two inches wide, this proposal more clearly defines the stripes as being one to two inches in depth and having a width that extends the width of the stair tread.

Bibliography: United State Government Report #P25-1141)

National Eye Institute, Low Vision 2010.

Journal of Gerontology Medical Sciences Research Article: doi: 10.1093/geona/glx21.

CDC ,Older Adult Falls Data | Fall Prevention | Injury Center | CDC

ANSI/IES RP-28-20. Recommended Practice: Lighting and the Visual Environment for Older Adults and the Visually Impaired. Illuminating Engineering Society. New York.

NIH National Library of Medicine, National Center for Biotechnology Information.

CDC data: Significant number of falls for Seniors occurred on stairs and steps.

Falls in Older Adults - Older People's Health Issues Merck Manuals https://www.merckmanuals.com › home › falls-in-older-.

Cohen, Harvey and Pauls, Jake. Warnings and Markings for Stairs and Pedestrian Terrain. Handbook on Warnings. In: Michael Wogalter (Ed.),Lawrence Erlbaum, Inc., 2006, pp. 711-722.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The lowest cost method for adding a stripe to stairs is painting a stripe. However to provide conservatively high estimate we have used the cost of adding a metal nosing strip to the tread of each stair and on the nosing of the landing above a stair. From estimates of costs published on the internet the costs of aluminum stair nosing are $6 to $21 per linear foot. https://kofflersales.com/product/metal-stair-nosing Similar costs are found on Grainger's and Lowes websites.

Using a medium costs of $12.50/linear foot, the material cost of adding an aluminum nosing to a 4 foot wide tread is $50/stair. According one home improvement website, "A beginner can install a nosing on a tread in 15 to 30 minutes." https://www.thespruce.com/installing-a-stair-nosing-strip-1822570 According to the US Bureau of Labor Statistics, the Mean Labor wage for carpenter, US average May 2022 is $ 27.99/hr https://www.bls.gov/oes/current/oes472031.htm Thus the labor cost is $14 per step to install a $50 nosing strip for a total installed cost of $64/stair tread. With 50% overhead and profit for carpenters (2020 RS Means), total cost is $96 per installed 4 foot wide nosing. For a 12 foot tall story, with 6 inch risers per step, there are 24 nosings with an installed cost of 24 x $96 = $2,304 per story.

Estimated Immediate Cost Impact Justification (methodology and variables):

Adding striping to stairs increases the cost of stairs by 1.8%. However, this cost is offset by the societal savings associated with avoiding trip and fall hazards on stairways.

Estimated Life Cycle Cost Impact:

Overall life cycle impact is negative meaning that society has an overall benefit from the increased visibility of change of level in stairs.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

In Cohen and Pauls Warnings and Markings for Stairs and Pedestrian Terrain (see bibliography), they cite that "Stair-related injuries alone were estimated to have a societal cost of nearly 50 billion dollars in 1995."

E74-24

E75-24

IBC: 1011.8; IFC: [BE] 1011.8

Proponents: Peter Zvingilas, State of Connecticut, SECTBO

2024 International Building Code

Revise as follows:

1011.8 Vertical rise. A *flight* of *stairs* shall not have a vertical rise greater than ~~12 feet (3658 mm)~~ 12 feet 7 inches (3835 mm) between floor levels or landings.

Exception: *Spiral stairways* used as a *means of egress* from *technical production areas*.

2024 International Fire Code

Revise as follows:

[BE] 1011.8 Vertical rise. A *flight* of *stairs* shall not have a vertical rise greater than ~~12 feet (3658 mm)~~ 12 feet 7 inches (3835 mm) between floor levels or landings.

Exception: *Spiral stairways* used as a *means of egress* from technical production areas.

Reason: The IRC changed from 12 feet to 12 feet 7 inches but did not change in the IBC. A vertical rise between floors of 12 feet 7 inches, this would create consistency in both books.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal does not increase cost of construction. See the reason statement.

E76-24

IBC: 1011.11; IFC: [BE] 1011.11

Proponents: William Conner, Bill Conner Associates LLC, American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

Revise as follows:

1011.11 Handrails.

Flights of stairways shall have *handrails* on each side and shall comply with Section 1014. Where glass is used to provide the *handrail*, the *handrail* shall comply with Section 2407.

Exceptions:

1. *Flights of stairways* within *dwelling units* and *flights* of *spiral stairways* are permitted to have a *handrail* on one side only.
2. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require *handrails*.
3. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require *handrails*.
4. Changes in room elevations of three or fewer risers within *dwelling units* and *sleeping units* in Groups R-2 and R-3 do not require *handrails*.
5. Where a platform lift is in a stationary position and the floor of the platform lift serves as the upper landing of a *stairway*, *handrails* shall not be required on the *stairway*, provided that all of the following criteria are met:
   5.1. The *stairway* contains not more than two risers.
   5.2. A handhold, positioned horizontally or vertically, is located on one side of the *stairway* adjacent to the top landing.
   5.3. The handhold is located not less than 34 inches (864 mm) and not more than 42 inches (1067 mm) above the bottom landing of the *stairway*.
   5.4. The handhold gripping surface complies with Section 1014.4, and is not less than 4.5 inches (114 mm) in length.
6. A flight of stairs between a stage and the audience seating area and in view of the audience is permitted to have a handrail on one side where the stairs are not required for egress.

2024 International Fire Code

Revise as follows:

[BE] 1011.11 Handrails.

Flights of *stairways* shall have *handrails* on each side and shall comply with Section 1014. Where glass is used to provide the *handrail*, the *handrail* shall comply with Section 2407 of the International Building Code.

Exceptions:

1. *Flights* of *stairways* within *dwelling units*, and *flights* of *spiral stairways* are permitted to have a *handrail* on one side only.
2. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require *handrails*.
3. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require *handrails*.
4. Changes in room elevations of three or fewer risers within *dwelling units* and *sleeping units* in Group R-2 and R-3 do not require *handrails*.

5. Where a platform lift is in a stationary position and the floor of the platform lift serves as the upper landing of a *stairway*, *handrails* shall not be required on the *stairway*, provided that all of the following criteria are met:
   5.1. The *stairway* contains not more than two risers.
   5.2. A handhold, positioned horizontally or vertically, is located on one side of the *stairway* adjacent to the top landing.
   5.3. The handhold is located not less than 34 inches (864 mm) and not more than 42 inches (1067 mm) above the bottom landing of the *stairway*.
   5.4. The handhold gripping surface complies with Section 1014.4 and is not less than 4.5 inches (114 mm) in length.
6. A flight of stairs between a stage and the audience seating area and in view of the audience is permitted to have a handrail on one side where the stairs are not required for egress.

Reason: All egress requirements are met without these stairs. The handrails on the inside or center side of stairs to stages are a sightline obstruction. These railings are frequently omitted or removed by users currently. There is still a handrail on one side for a very low utilization stair.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

While there may be a very tiny decrease, within the scope of building a stage and auditorium, the cost is insignificant.

E76-24

E77-24 Part I

IBC: 1011.12, 1011.12.1, 1011.12.2; IFC: [BE] 1011.12, [BE] 1011.12.1, [BE] 1011.12.2

Proponents: Jeffrey Evans, Codified Life Safety, Codified Life Safety (jevans@codifiedlifesafety.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE/WILDLAND-URBAN INTERFACE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

~~1011.12~~ 1209.4 ~~Stairway to roof~~ Roof spaces.
In *buildings* four or more *stories above grade plane*, one *stairway* shall extend to the roof surface unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope). Stairways, ship's ladders, alternating tread devices, and ladders required by this section shall be in accordance with Section 1011.

Exception: Other than where required by Section ~~1011.12.1~~ 1209.4.1, in *buildings* without an *occupiable roof* access to the roof from the top *story* shall be permitted to be by an *alternating tread device*, a ship's ladder or a permanent ladder.

~~1011.12.1~~ 1209.4.1 Stairway to elevator equipment.
Roofs and *penthouses* containing elevator equipment that must be accessed for maintenance are required to be accessed by a *stairway*.

~~1011.12.2~~ 1209.4.2 Roof access.
Where a *stairway* is provided to a roof, access to the roof shall be provided through a *penthouse* complying with Section 1511.2.

Exception: In *buildings* without an *occupiable roof* , access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m^2) in area and having a minimum dimension of 2 feet (610 mm).

2024 International Fire Code

Revise as follows:

[BE] ~~1011.12 Stairway to roof.~~
~~In buildings four or more stories above *grade plane*, one *stairway* shall extend to the roof surface, unless the roof has a slope steeper than 4 units vertical in 12 units horizontal (33-percent slope).~~

~~Exception:~~ ~~Other than where required by Section 1011.12.1, in buildings without an *occupiable roof*, access to the roof from the top story shall be permitted to be by an *alternating tread device*, a ship's ladder or a permanent ladder.~~

[BE] ~~1011.12.1~~ 504.3.1 Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a *stairway*.

[BE] ~~1011.12.2~~ 504.3.2 Roof access.
Where a *stairway* is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1511.2 of the International Building Code.

Exception: In buildings without an *occupiable roof*, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m^2) in area and having a minimum dimension of 2 feet (610 mm).

E77-24 Part II

IFC: 504.3

Proponents: Jeffrey Evans, Codified Life Safety, Codified Life Safety (jevans@codifiedlifesafety.com)

2024 International Fire Code

Revise as follows:

504.3 ~~Stairway access~~ Access to roof.

In ~~New~~ new buildings four or more stories above grade plane, ~~except those with a roof slope greater than 4 units vertical in 12 units horizontal (33.3 percent slope), shall be provided with a *stairway* to the roof~~one *stairway* shall extend to the roof surface, unless the roof has a slope steeper than 4 units vertical in 12 units horizontal (33-percent slope). ~~*Stairway* access to the roof shall be in accordance with Section 1011.12~~ Stairways, ship's ladders, alternating tread devices, and ladders required by this section shall be in accordance with Section 1011. Such *stairway* shall be marked at street and floor levels with a sign indicating that the *stairway* continues to the roof. Where the roof is a *vegetative roof*, includes a *landscaped roof* area, or is used or for other purposes, stairways shall be provided as required for such occupancy classification.

Exception: Other than where required by Section ~~1011.12.1~~ 504.3.1, in buildings without an *occupiable roof*, access to the roof from the top story shall be permitted to be by an *alternating tread device*, a ship's ladder or a permanent ladder.

Reason: In order to align with other code provisions requiring access to unoccupied spaces, the provisions requiring unoccupied roof access are proposed to be moved to IBC Section 1209/IFC Section 504.3, with reference to Section 1011 for how the elements of such access are to be provided. Whereas Section 1011 is dedicated to specifications for *how* stairways, alternating tread devices, ship's ladders, and ladders are to be provided, it does not make sense to include provisions on *when* stairways are required in this section, particularly when sections addressing building access are provided elsewhere. Further, as it is understood that the provisions for roof access (notably not referred to as roof egress) are intended to facilitate building maintenance, rooftop equipment repair, and fire department access, it is misleading for the provisions to be located in the means of egress chapter. Means of egress for occupiable roofs is already appropriately addressed in Sections 1004.7, 1006.1, 1006.3, and 1009.2.1.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal relocates the provisions to a more logical place in the code aligning with similar provisions. There is no change to the technical content of the provisions. By modifying the section numbers only, there will be no cost impact when approving this proposal.

E78-24

IBC: 1013.6, 1013.6.1, 1013.6.2 (New), FIGURE 1013.6.2 (New), 1013.6.2.1 (New), 1013.6.3 (New), 1013.6.2, 1013.6.3; IFC: [BE] 1013.6, [BE] 1013.6.1, 1013.6.2 (New), FIGURE 1013.6.2 (New), 1013.6.2.1 (New), 1013.6.3 (New), [BE] 1013.6.2, [BE] 1013.6.3

Proponents: Scott Brody, None (sbrody96@gmail.com)

2024 International Building Code

Revise as follows:

1013.6 Externally illuminated exit signs.
Externally illuminated exit signs shall comply with Sections 1013.6.1 through ~~1013.6.3~~ 1013.6.5.

1013.6.1 ~~Graphics~~ Exit text.
Every textual exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $^3/_4$ inch (19.1 mm) wide. The word “EXIT” shall have letters having a width not less than 2 inches (51 mm) wide, except the letter “I,” and the minimum spacing between letters shall be not less than $^3/_8$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.The word “EXIT” shall be in high contrast with the background and shall be clearly discernible when the means of exit sign illumination is or is not energized. If a chevron directional indicator is provided as part of the exit sign, the construction shall be such that the direction of the chevron directional indicator cannot be readily changed.Exit text shall be permitted to be displayed in multiple languages. In these situations, and in jurisdictions utilizing non-Latin scripts, the size of text, and its placement with respect to directional indicators, shall be *approved*.

Add new text as follows:

1013.6.2 Exit symbols. Graphical symbol exit signs shall be based on Figure 1013.6.2 and the symbol shall be a minimum of 5.91 inches (150 mm) high.

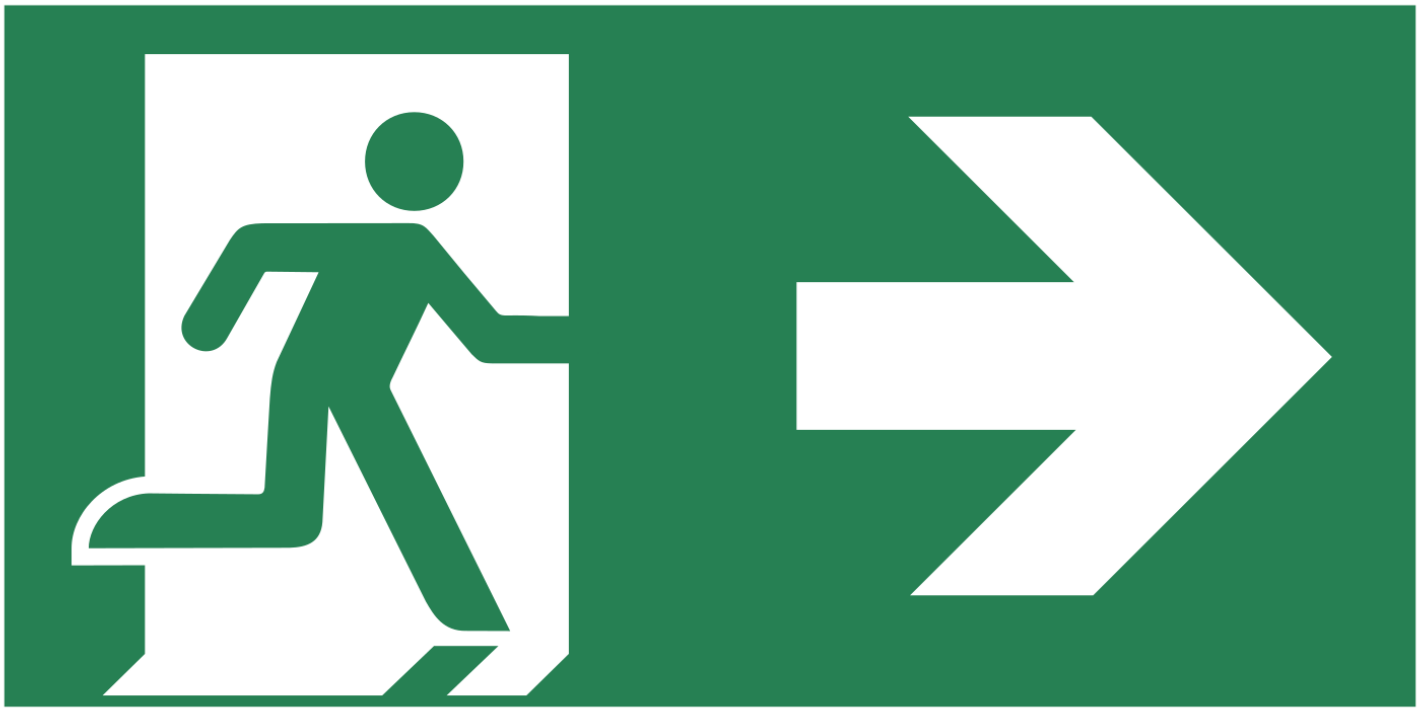


FIGURE 1013.6.2 Graphic exit symbol

1013.6.2.1 Detail proportions and color requirements. The proportions of the graphic exit symbol, and the size and positioning of any

arrow, shall be in accordance with UL 924. The color of the doorway and arrow shall be white. The background and person moving through the doorway shall be green.

1013.6.3 Textual and graphic symbol exit signs. Exit signs shall include the graphic symbol or a combination of the text and graphic symbol. Where text and symbol are both provide they shall be displayed simultaneously. The text shall not obstruct the symbol or arrow. The exit text and symbols shall be on one sign or two adjacent signs.

Revise as follows:

~~**1013.6.2**~~ **1013.6.4 Exit sign illumination.**
The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 footcandles (54 lux).

~~**1013.6.3**~~ **1013.6.5 Power source.**
Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the *emergency power system* shall be in accordance with Chapter 27. Group I-2, Condition 2 exit sign illumination shall not be provided by unit equipment batteries only.

Exception: *Approved* exit sign illumination types that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

2024 International Fire Code

Revise as follows:

[BE] 1013.6 Externally illuminated exit signs.
Externally illuminated exit signs shall comply with Sections 1013.6.1 through ~~1013.6.3~~ 1013.6.5.

[BE] 1013.6.1 ~~Graphics~~ Exit text. Every textual exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $^3/_4$ inch (19.1 mm) wide. The word “EXIT” shall have letters having a width not less than 2 inches (51 mm) wide, except the letter “I,” and the minimum spacing between letters shall be not less than $^3/_8$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.The word “EXIT” shall be in high contrast with the background and shall be clearly discernible when the means of exit sign illumination is or is not energized. If a chevron directional indicator is provided as part of the exit sign, the construction shall be such that the direction of the chevron directional indicator cannot be readily changed.Exit text shall be permitted to be displayed in multiple languages. In these situations, and in jurisdictions utilizing non-Latin scripts, the size of text, and its placement with respect to directional indicators, shall be *approved*.

Add new text as follows:

1013.6.2 Exit symbols. Graphical symbol exit signs shall be based on Figure 1013.6.2 and the symbol shall be a minimum of 5.91 inches (150 mm) high.

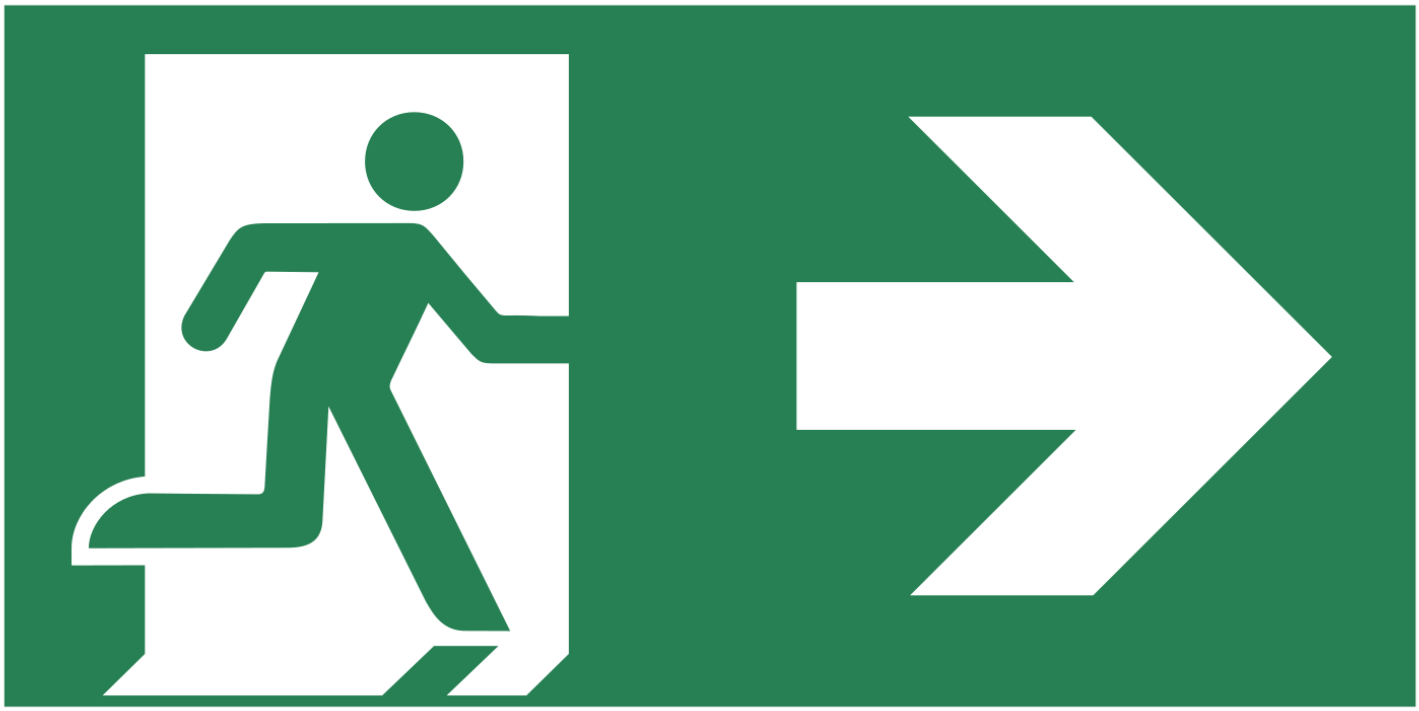


FIGURE 1013.6.2 Graphic exit symbol

1013.6.2.1 Detail proportions and color requirements. The proportions of the graphic exit symbol, and the size and positioning of any arrow, shall be in accordance with UL 924. The color of the doorway and arrow shall be white. The background and person moving through the doorway shall be green.

1013.6.3 Textual and graphic symbol exit signs. Exit signs shall include the graphic symbol or a combination of the text and graphic symbol. Where text and symbol are both provide they shall be displayed simultaneously. The text shall not obstruct the symbol or arrow. The exit text and symbols shall be on one sign or two adjacent signs.

Revise as follows:

[BE] ~~1013.6.2~~ 1013.6.4 Exit sign illumination.
The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 footcandles (54 lux).

[BE] ~~1013.6.3~~ 1013.6.5 Power source.
Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 1203. Group I-2, Condition 2 exit sign illumination shall not be provided by unit equipment batteries only.

Exception: *Approved* exit sign illumination types that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

Attached Files

- **10382 Exit sign code change narrative without vessels.pdf**
  https://www.cdpaccess.com/proposal/10382/30651/files/download/4773/

Reason: Fixes violations of Code Council Policy #49-21, because the current language:

· Precludes the code from being adopted in certain situations internationally.

· Conflicts with International Law: World Trade Organization Technical Barriers to Trade Agreement Article 2.4

Improves safety because:

o The human brain is better at recalling information when it is presented visually.

o Symbols have faster glance recognition versus words.

o Foreigners, small children, and people with certain disabilities can better understand symbolic communication.

o People in nations using the I-codes will gain exposure to the exit symbol used in most of the world, thus they will be better prepared for emergencies while traveling abroad.

o The ISO arrow is far more legible at a distance vs the tiny chevron directional indicator referenced in the current code.

o Large ISO-type arrows can be more clearly X'd out on dynamic exit signs, which may be coming in the future.

o The proposed language also encourages and incentivizes placing door numbers on signs, which make it easier for emergency services to know what door to arrive at, without the caller having to go outside, look for a door number, and potentially get locked out.

My proposal thus takes advantage of the benefits of symbols, while providing reasonable options for supplemental text to support symbol learning where this type of exit sign has not yet been introduced (mainly the US).

Bibliography: See attachment for bibliography and further justification.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

An example of the cost of an exit sign is $20. The total cost for the building is dependent on the number of exit signs required. If you can save even a small amount on each sign, that could be a significant savings for the building.

Estimated Immediate Cost Impact Justification (methodology and variables):

Because this change provides increased flexibility, it is expected costs will be lower in some cases. This is especially true for prefabricated structures, for example jet bridges, which would not have to be imported with separate exit signs for the US market.

For ordinary externally illuminated exit signs, there is potential for cost savings because customers will be able to shop on the global marketplace for ISO signs, vs the smaller market for text signs. This could result in even higher savings in non-English speaking places using this code, because there may be a limited number of manufacturers selling signs in languages with few speakers.

For exit text and symbol signs, the costs would depend on what the AHJ requires. For example, if the AHJ only mandates small exit text, a label could be placed on top of the sign, which could cost in the range of cents more per sign. If the AHJ requires larger text, the sign could wind up larger than the existing standard. Since many sign producers charge based on the surface area of the sign, costs could be expected to be higher than existing norms. However, there would still be 0$ required cost to the builder since they retain the option to continue using text only signs. In the event custom information is added to the sign, such as door numbers, this would be expected to be more expensive than the current sign configuration. It would also generally require larger signs. Since this is only being proposed as an option, it would result in no additional cost if the building owner did not wish to exercise such rights.

Because of the multitude of factors impacting safety, and various conditions in different nations, it is not possible to definitively quantify the safety costs vs benefits of ISO exit signs, vs the current IFC standard.

Since most exit signs are internally illuminated, and these changes apply only to externally illuminated signs, the overall cost impact can be expected to be limited.

E78-24

E79-24

IBC: 1014.4, 1014.5; IFC: [BE] 1014.4, [BE] 1014.5

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1014.4 Handrail graspability.

Required *handrails* shall comply with Section 1014.4.1 or shall provide equivalent graspability.

~~**Exception**~~ **Exceptions:**

1. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; *handrails* shall be Type I in accordance with Section 1014.4.1, Type II in accordance with Section 1014.4.2 or shall provide equivalent graspability.
2. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, *handrails* shall be Type I in accordance with Section 1014.4.1, Type II in accordance with Section 1014.4.2 or shall provide equivalent graspability.

1014.4.1 Type I.

Handrails with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). Where the *handrail* is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) with a maximum cross-sectional dimension of $2^1/_4$ inches (57 mm) and minimum cross-sectional dimension of 1 inch (25 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

1014.4.2 Type II.

Handrails with a perimeter greater than $6^1/_4$ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of $^3/_4$ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of not less than $^5/_{16}$ inch (8 mm) within $^7/_8$ inch (22 mm) below the widest portion of the profile. This required depth shall continue for not less than $^3/_8$ inch (10 mm) to a level that is not less than $1^3/_4$ inches (45 mm) below the tallest portion of the profile. The width of the *handrail* above the recess shall be not less than $1^1/_4$ inches (32 mm) to not greater than $2^3/_4$ inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Revise as follows:

1014.5 Continuity.

Handrail gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Within a *dwelling* unit that is not an *Accessible unit* or *Type A unit*, the continuity of handrail gripping surfaces is allowed to be interrupted by a newel post at a turn or landing.
2. Within a *dwelling unit*, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. ~~Handrail brackets or balusters~~Supports attached to the bottom surface of the *handrail* that do not project horizontally beyond the sides of the *handrail* within $1^1/_2$ inches (38 mm) of the bottom of ~~the~~Type I *handrail*s shall not be considered obstructions. For each $^1/_2$ inch (12.7 mm) of additional handrail perimeter dimension of Type I handrails above 4 inches (102 mm), the vertical clearance dimension of $1^1/_2$ inches (38 mm) shall be permitted to be reduced by $^1/_8$ inch (3.2 mm). The entire length of Type II handrails shall be permitted to be obstructed provided any horizontal projection of the supports beyond the sides of the handrail are below the required recess.
4. ~~Where *handrails* are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper *guards*.~~

45. *Handrails* serving stepped *aisles* or ramped *aisles* are permitted to be discontinuous in accordance with Section 1030.16.1.

2024 International Fire Code

Revise as follows:

[BE] 1014.4 Handrail graspability.
Required *handrails* shall comply with Section 1014.4.1 or shall provide equivalent graspability.

Exception Exceptions:

1. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; *handrails* shall be Type I in accordance with Section 1014.4.1, Type II in accordance with Section 1014.4.2 or shall provide equivalent graspability.
2. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, *handrails* shall be Type I in accordance with Section 1014.4.1, Type II in accordance with Section 1014.4.2 or shall provide equivalent graspability.

[BE] 1014.4.1 Type I. *Handrails* with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). Where the *handrail* is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) with a maximum cross-sectional dimension of $2^1/_4$ inches (57 mm) and minimum cross-sectional dimension of 1 inch (25 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

[BE] 1014.4.2 Type II. *Handrails* with a perimeter greater than $6^1/_4$ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of $^3/_4$ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of not less than $^5/_{16}$ inch (8 mm) within $^7/_8$ inch (22 mm) below the widest portion of the profile. This required depth shall continue for not less than $^3/_8$ inch (10 mm) to a level that is not less than $1^3/_4$ inches (45 mm) below the tallest portion of the profile. The width of the *handrail* above the recess shall be not less than $1^1/_4$ inches (32 mm) to not greater than $2^3/_4$ inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Revise as follows:

[BE] 1014.5 Continuity.
Handrail gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Within a *dwelling* unit that is not an *Accessible unit* or *Type A unit*, the continuity of handrail gripping surfaces is allowed to be interrupted by a newel post at a turn or landing.
2. Within a *dwelling unit*, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. ~~Handrail brackets or balusters~~Supports attached to the bottom surface of the *handrail* that do not project horizontally beyond the sides of the *handrail* within $1^1/_2$ inches (38 mm) of the bottom of ~~the~~Type I *handrails* shall not be considered obstructions. For each $^1/_2$ inch (12.7 mm) of additional handrail perimeter dimension of Type I handrails above 4 inches (102 mm), the vertical clearance dimension of $1^1/_2$ inches (38 mm) shall be permitted to be reduced by $^1/_8$ inch (3.2 mm). The entire length of Type II handrails shall be permitted to be obstructed provided any horizontal projection of the supports beyond the sides of the handrail are below the required recess.
4. ~~Where *handrails* are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper *guards*.~~
5. *Handrails* serving stepped *aisles* or ramped *aisles* are permitted to be discontinuous in accordance with Section 1030.16.1.

Reason: Overview:

This proposal offers changes to both **1014.5 Continuity** and **1014.4 Handrail graspability** to provide a gripping surface at in hallways of Health Care and Nursing Facilities where it is currently not required by the code.

Although handrails are not required the code allows for imposters to be provided at critical locations where they are needed. Crash rails and bumper guards are in fact used as handrails and relied upon by the occupants of hospitals, nursing homes and health care facilities for the functions of guidance and support as defined in the I-Codes. They are common in hallways throughout these facilities where the slope is not steeper than 1:20. These elements are typically larger, more visible and inviting to the occupants that are most frequently in need of mobility aids. The code offers no provision for a graspable surface but instead, in the absence of such, elicits a deceptive invitation to potential accident by default. These crash rails and bumper guards are typically taller in vertical dimension and larger in perimeter restricting access to the bottom of the rail to attain a grasp. Consequently, the current exception 4 to handrail continuity eliminates any graspable surface by allowing the entire bottom of the rail to be completely obstructed. The option to completely obstruct the bottom of the handrail has been justified as being critical to cost effective installation of the needed crash rails and bumper guards.

Handrail Graspability:

The new exception 2 to handrail graspability is added to ensure that although not required, where handrails are provided along horizontal walking surfaces that are sloped less than 1:20, a functional gripping surface is provided. Although handrails are not required at these locations, they are in fact used as handrails as defined in the I-Codes:

Handrail. A horizontal or slopping rail intended for grasping by the hand for guidance or support.

Exception 2 provides for the use of Type II handrails that have been in the I-Codes for more than 20 years. Type II handrails provide a power span grip surface that is equivalent to 2-inch diameter Type I handrail, been in the I-codes for more than 20 years. Type II handrails have the distinct advantage of a continuous gripping surface that is not interrupted by supports that cause the typical grip and release hand-hopping at each support that is prevalent when trying to maintain continuous contact with the bottom gripping surface critical to the functionality of Type I handrails.

Continuity:

Changes to Exception 3…

Handrails are often supported by elements that may be panels or other objects not best described as brackets or balusters and the substitution of the general term “supports” clarifies the intent of the requirement. Currently exception 3 is worded to address the limitations of small perimeter handrails that require access to the bottom of the handrail to gain a functional grip. This should only apply to Type I handrails that must rely upon grasping the bottom of the handrail. We have inserted specific references to Type I profiles.

Type II handrails are larger in perimeter and have specific recesses designed to provide grip surfaces that need not rely on grasping the bottom of the handrail. They are not dependent upon wrapping the fingers around the bottom surface of the handrail. The new sentence inserted at the end of exception 3 clearly recognizes the unique difference between Type I and Type II handrails. Type II handrails provide an uninterrupted gripping surface not attainable with Type I gripping surfaces that are interrupted by supports attached to the bottom of the handrail.

Changes to Exception 4

Exception 4 has been deleted to assure that where provided the rail that is used as a handrail provides no less than the functionality of a Type II handrail. The design of a Type II gripping surface can easily permit obstruction of the surface below the graspable recesses and allow for the rail to also function as a crash rail or bumper guard that needs to be larger in height and perimeter prohibiting use of a Type I gripping surface as a reasonable or cost-effective solution. However, if desired this proposal does not restrict the use of Type I handrails. This change will provide for the safety of occupants without an increase in the cost of construction. Rail profiles are molded of wood or extruded from other materials. The cost is not affected by the change of profile and will not affect the cost of installation.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Handrails shapes are extruded or moulded in a lineal process where the shape does not affect cost other than the difference in material. Less material would be used in an extrusion to create the required recesses of Type II profiles. Wood mouldings would use the same amount of material but remove more when shaped to create the required recesses.

E80-24

IBC: 1014.4.1; IFC: [BE] 1014.4.1

Proponents: Thomas Zuzik Jr, RailingCodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA.org) (coderep@railingcodes.com)

2024 International Building Code

1014.4 Handrail graspability.
Required *handrails* shall comply with Section 1014.4.1 or shall provide equivalent graspability.

Exception: In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; *handrails* shall be Type I in accordance with Section 1014.4.1, Type II in accordance with Section 1014.4.2 or shall provide equivalent graspability.

Revise as follows:

1014.4.1 Type I.
Handrails with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). Where the *handrail* is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) with a maximum cross-sectional dimension of $2^1/_4$ inches (57 mm) and a minimum ~~cross-sectional~~ horizontal width dimension of 1 inch (25 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

2024 International Fire Code

[BE] 1014.4 Handrail graspability.
Required *handrails* shall comply with Section 1014.4.1 or shall provide equivalent graspability.

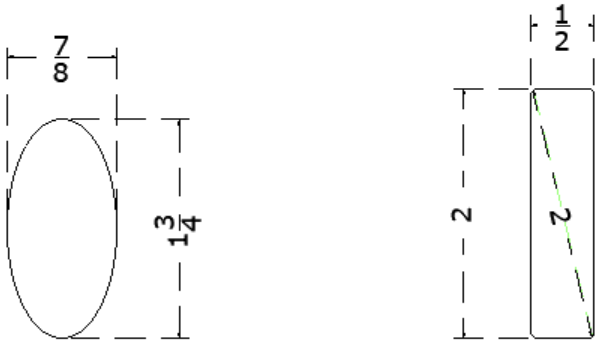
Exception: In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; *handrails* shall be Type I in accordance with Section 1014.4.1, Type II in accordance with Section 1014.4.2 or shall provide equivalent graspability.

Revise as follows:

[BE] 1014.4.1 Type I. *Handrails* with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). Where the *handrail* is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) with a maximum cross-sectional dimension of $2^1/_4$ inches (57 mm) and a minimum ~~cross-sectional~~ horizontal width dimension of 1 inch (25 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Reason: In the 2012 model IBC, section 1012.3.1 Type I. handrails added the new clarifying text of "and minimum cross-sectional dimension of 1-inch (25mm).", to the end of the existing 2 1/4-inch maximum cross-sectional, text. This new minimum cross section dimension of 1-inch was added to specifically to limit the use of thinner Type I handrail profiles being installed in a vertical direction as

shown in Sketch RC-02 below.

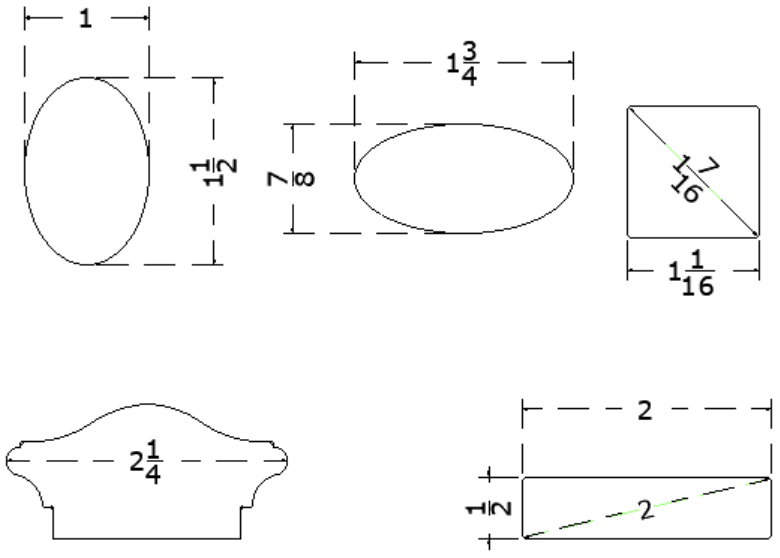


SKETCH RC-02

Of late a limited number of AHJ have been interpreting the minimum limit to be a 2nd dimensional measurement for both horizontal and vertical.

When the author of this proposed modification to clarify the minimum 1-inch dimension was on the hearing floor and testified in favor of E98-09/10, for the addition of the 1-inch minimum width, it was in support to prevent thinner width vertical handrail profiles, from being installed, not to add a 2nd vertical height dimensional requirement, that a limited number of AHJ are now questioning if applies.

Sketch RC-01 shows a group of compliant Type I handrail profiles, of which 2 of the profiles when turned vertical would not comply as depicted in Sketch RC-02 above.



SKETCH RC-01

The proposed deletion of term cross-sectional and replacement with the term horizontal, this author believes eliminates the new arising questions about the minimum and better aligns with what this author believes was the intent of the minimum dimension.

To better explain this point, the following quote is from the original proposal E98-09/10 reason statement.

- "Try doing a chin up or pull up on a 1-1/2" diameter tube versus a 3/8" x 2" steel bar having the 2 inch dimension oriented vertically."

Additionally, since the addition of the new text in the 2012 model IBC, the ICC A117.1 has published the 2017 edition with no addition to the text for a minimum cross-sectional, nor was a proposal submitted for this minimum to be added in the current A117.1 cycle started in 2022.

Bibliography:

- ICC Model 2009 IBC
  - Section 1012.3.1 Type I. Handrails
- ICC Model 2012 IBC
  - Section 1012.3.1 Type I. Handrails
- ICC Model 2024 IBC
  - Section 1014.4.1 Type I. Handrails
- ICC A117.1
  - Section 505.7 Cross section. Handrails
  - Section 505.7.2 Noncircular cross sections.
- 2010 ADA Standard
  - Section 505.7 Cross section. Handrails
  - Section 505.7.2 Noncircular cross sections.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost impact to the built environment with this code change, as this proposal is cleaning up terminology for required elements of the code for Type I handrails.

E80-24

E81-24

IBC: 1014.4.1; IFC: [BE] 1014.4.1

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1014.4.1 Type I.
Handrails with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). Where the *handrail* is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) with a maximum cross-sectional dimension of $2^1/_4$ inches (57 mm). The minimum horizontal cross section shall be 1 inch (25 mm) and a the height of the maximum vertical cross-section shall be not less than of 5/8 inch (16 mm) ~~and minimum cross-sectional dimension of 1 inch (25 mm)~~. Edges shall have a minimum radius of 0.01 inch (0.25 mm).

2024 International Fire Code

Revise as follows:

[BE] 1014.4.1 Type I. *Handrails* with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). Where the *handrail* is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) with a maximum cross-sectional dimension of $2^1/_4$ inches (57 mm). The minimum horizontal cross section shall be 1 inch (25 mm) and a the height of the maximum vertical cross-section shall be not less than of 5/8 inch (16 mm) ~~and minimum cross-sectional dimension of 1 inch (25 mm)~~. Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Attached Files

- **E98 - 09-10 Type 1 code change.pdf**
  https://www.cdpaccess.com/proposal/9669/29918/files/download/4115/

Reason: The current text related to non-circular profiles is being interpreted such that the handrail profile must comply with both the maximum cross-section and minimum cross section regardless of the orientation of the handrail. This was not the intent of the original proposal E98-09/10, included here, as approved for inclusion in the 2012 IBC. The intent was to eliminate the possible use of thin profiles in the vertical orientation.

A minimum cross section can be determined at any point in any direction. Consider shapes with large corner radii, ovals, or elliptical sections. Such profiles in both the horizontal and vertical orientation provide suitable access to the bottom of the rail to attain graspability. However, the minimum cross section could be taken at the narrow end of an ellipse or oval as in Figure A. An oval with a 1 inch maximum horizontal cross-section would have a minimum cross-section of far less than an inch at any either end and be reason to reject one of the most graspable non-circular Type I handrail profiles.

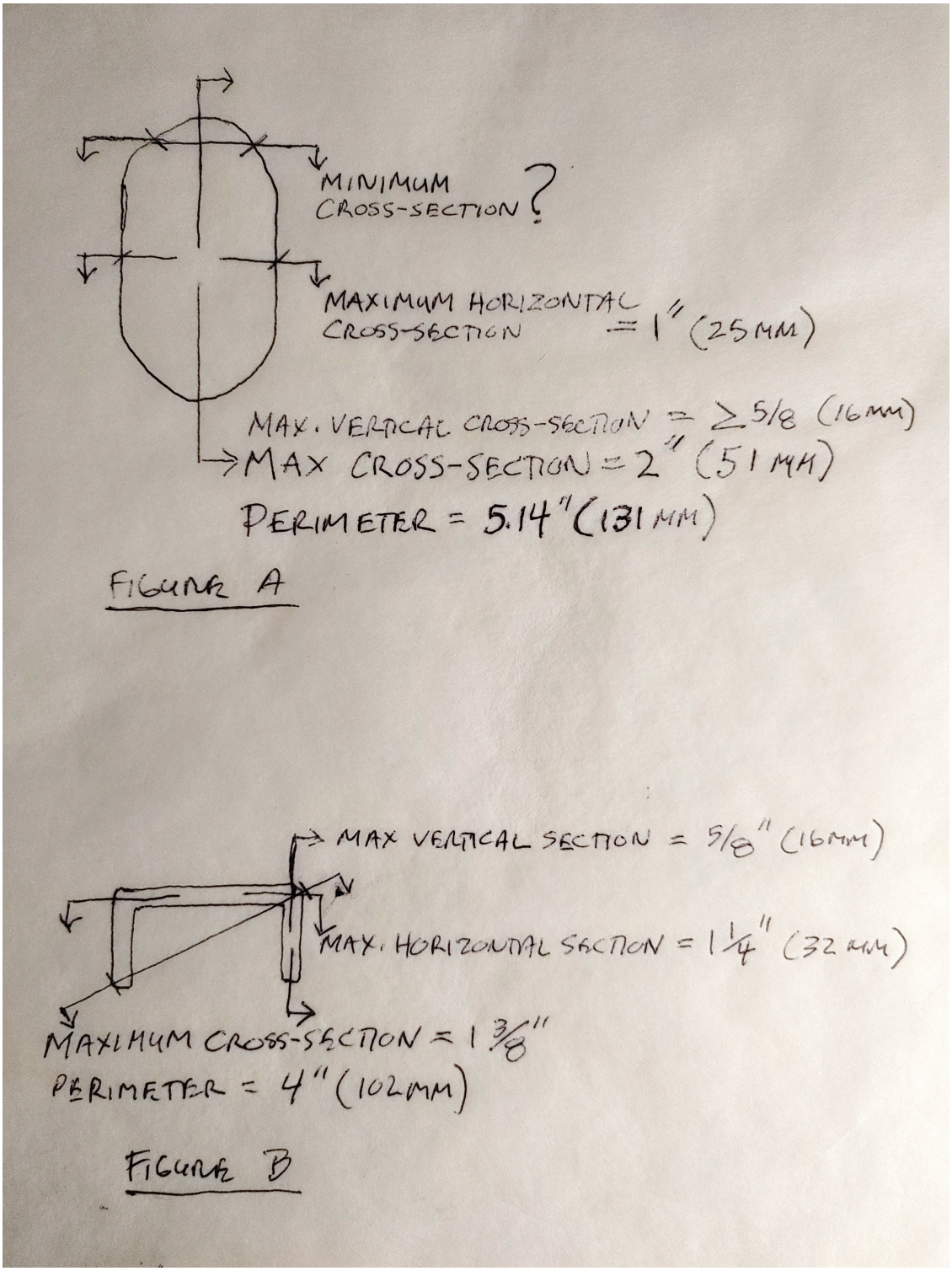
Requiring the maximum vertical cross-section to be not less than 5/8 inch restricts thin profiles that would be objectionable when transverse pressure is applied but allows for common channels as in Figure B and traditional metal profiles with long accepted functionality.

The intent of the proponent of E98-09/10 would have been more aptly served had the cross-section language been limited to the horizontal cross-section and a vertical cross-section as proposed here. These dimensions combined with the perimeter range of 4 – 6 ¼ inches and the maximum cross-section provide the necessary controls essential to graspability of Type I non-circular profiles without inhibiting freedom of design.

The 1-inch minimum cross section was never proposed for the IRC where Type II profiles are prominent. Type II rails have the advantage of graspable recesses located to engage the finger and thumb in a power span grip that does not require access to the bottom of the handrail. This is especially important where the handrail typically serves as the top of the guard and is often supported by balusters/guard in-fill, more than just brackets that interrupt the bottom surface. By providing a minimum width for a Type I non-circular

profile the supports at the bottom of the handrail may be less objectionable which is a serious issue with any Type one profiles causing hand hoping rather than a continuous grasp.

This change is essential to correct an anomaly in the interpretation of the graspability of non-circular type I handrail profiles.



Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal provides additional technical requirements to better regulate the shape of Type I handrails however the added requirements have no material affect upon the cost of construction.

E82-24

IBC: 1014.5, 1014.6, 1014.8; IFC: [BE] 1014.5, [BE] 1014.6, BE] 1014.8

Proponents: Thomas Zuzik Jr, RailingCodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA.org) (coderep@railingcodes.com)

2024 International Building Code

Revise as follows:

~~1014.8~~1014.5 Clearance.
Clear space between a *handrail* and a wall or other surface shall be not less than $1^1/_2$ inches (38 mm). A *handrail* and a wall or other surface adjacent to the *handrail* shall be free of any sharp or abrasive elements.

Exceptions:

1. A decrease in the clearance due to the curvature or angle of handrail returns shall be allowed.
2. Mounting flanges not more than $^1/_2$-inch (12.7 mm) in thickness at the returned ends of handrails shall be allowed.

~~1014.5~~ 1014.6 Continuity. Handrail gripping surfaces shall be continuous~~, without interruption by newel posts or other obstructions.~~ along their length and shall not be obstructed along their tops or sides. Horizontal projections shall occur $1^1/_2$ inches (38 mm) minimum below the bottom of the handrail's gripping surface and the bottoms of required handrails shall not be obstructed for more than 20 percent of their length, within $1^1/_2$ inches (38 mm) below the bottom of the handrail's gripping surface.

Exceptions:

1. Within a *dwelling* unit that is not an *Accessible unit* or *Type A unit*, the continuity of handrail gripping surfaces is allowed to be interrupted by a newel post at a turn or landing.
2. Within a *dwelling unit*, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. ~~Handrail brackets or balusters attached to the bottom surface of the *handrail* that do not project horizontally beyond the sides of the *handrail* within $1^1/_2$ inches (38 mm) of the bottom of the *handrail* shall not be considered obstructions.~~ For each $^1/_2$ inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of $1^1/_2$ inches (38 mm),on the bottom of handrail gripping surfaces, shall be permitted to be reduced by $^1/_8$ inch (3.2 mm).
4. Where *handrails* are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper *guards*.
5. *Handrails* serving stepped *aisles* or ramped *aisles* are permitted to be discontinuous in accordance with Section 1030.16.1.

1014.7 Handrail extensions.
Handrails shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight* of stairs or ramp run. Where *handrails* are not continuous between *flights*, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top landing nosing and continue to slope for the depth of one tread beyond the bottom tread nosing.
At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of *handrails* shall be in the same direction of the *flights* of stairs at stairways and the ramp runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.5 or 1014.8 .

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be accessible need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the handrail extensions in accordance with Section 1030.16.

3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between *flights* or to extend beyond the top or bottom risers.

Revise as follows:

~~1014.6~~ 1014.8 Fittings.
Handrails shall not rotate within their fittings.

2024 International Fire Code

Revise as follows:

[BE] ~~1014.8~~1014.5 Clearance. Clear space between a *handrail* and a wall or other surface shall be not less than $1^1/_2$ inches (38 mm). A *handrail* and a wall or other surface adjacent to the *handrail* shall be free of any sharp or abrasive elements.

Exceptions:

1. A decrease in the clearance due to the curvature or angle of handrail returns shall be allowed.
2. Mounting flanges not more than $^1/_2$-inch (12.7 mm) in thickness at the returned ends of handrails shall be allowed.

[BE] ~~1014.5~~ 1014.6 Continuity.
Handrail gripping surfaces shall be continuous~~, without interruption by newel posts or other obstructions.~~ along their length and shall not be obstructed along their tops or sides. Horizontal projections shall occur $1^1/_2$ inches (38 mm) minimum below the bottom of the handrail's gripping surface and the bottoms of required handrails shall not be obstructed for more than 20 percent of their length, within $1^1/_2$ inches (38 mm) below the bottom of the handrail's gripping surface.

Exceptions:

1. Within a dwelling unit that is not an Accessible unit or Type A unit, the continuity of handrail gripping surfaces is allowed to be interrupted by a newel post at a turn or landing.
2. Within a *dwelling unit*, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. ~~Handrail brackets or balusters attached to the bottom surface of the *handrail* that do not project horizontally beyond the sides of the *handrail* within $1^1/_2$ inches (38 mm) of the bottom of the *handrail* shall not be considered obstructions.~~ For each $^1/_2$ inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of $1^1/_2$ inches (38 mm),on the bottom of handrail gripping surfaces, shall be permitted to be reduced by $^1/_8$ inch (3.2 mm).
4. Where *handrails* are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.
5. *Handrails* serving stepped *aisles* or ramped *aisles* are permitted to be discontinuous in accordance with Section 1030.16.1.

[BE] 1014.7 Handrail extensions.
Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent *flight* of stairs or *ramp* run. Where handrails are not continuous between *flights*, the handrails shall extend horizontally not less than 12 inches (305 mm) beyond the top landing nosing and continue to slope for the depth of one tread beyond the bottom tread nosing.
At *ramps* where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of handrails shall be in the same direction of the *flights* of stairs at stairways and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.5 or 1014.8.

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be accessible need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the handrail extensions in accordance with Section 1030.16.

3. *Handrails* for *alternating tread devices* and ship's ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between *flights* or to extend beyond the top or bottom risers.

Revise as follows:

[BE] ~~1014.6~~ 1014.8 Fittings. *Handrails* shall not rotate within their fittings.

Reason: This code change proposal is first reorganizing the order of some of the handrail Sections to be more in common with the flow of use and enforcement.

- Section 1014.8 Clearance is moved up in order and renumbered to 1014.5.
- Section 1014.6 Fittings is moved down in the order and renumbered to 1014.8. Section
- Section 1014.5 Continuity is moved down one in the order and renumbered to 1014.6.

Next the renumbered Section 1014.6 Continuity, has been revised to better clarify within the code the following requirements.

- The first sentence has been edited to be clearer and align with the text in ICC 2017 A117.1 Section 505.6 gripping surfaces, and also aligns with the clear text within the 2010ADA for obstructions on the top and sides of the handrail profile.
- This code change brings a known requirement currently buried in the text to light and clearly establishes the minimum $1^1/_2$ inch vertical clearance that the code requires between the underside of the handrails gripping surface and any projections to either side of the handrail.
- The new conditional text for the 20% obstruction limit is a long-standing requirement within both the 2010ADA and the ANSI & ICC's A117.1 current and prior additions. As thus, the adding of this conditional text is in line with standard handrail fabrication requirements already being followed for more than a few decades.
    - What the text brings to the IBC is a uniformity between the 2 long-standing standards and the base building code.
- By incorporating the 20% obstruction language into the main text of 1014.6 Continuity, the first sentence in exception 3 can be removed, as it is no longer needed for brackets or balusters.
- The new additional text proposed in the second sentence of exception 3, better clarifies the allowed decrease for both the bracket projections from the sides and the distance for the 20% stipulation.

This code change proposal better aligns the text of the IBC with how handrails are required to be fabricated and installed on projects.

Bibliography:

- ICC model 2024 International Building Code (IBC)
    - Section 1014 Handrails
- ICC 2017 A117.1 Accessible and Usable Buildings and Facilities
    - Section 505 Handrails
- 2010ADA - ADA Standards for Accessible Design (https://ada.gov/)
    - Section 505 Handrails

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

At first glance this proposal may seem like it has a cost affect on construction, however the majority of the proposal is all editorial in nature with clarifications on requirements already within the scope of the code and or required within the ICC's A117.1 standard and the Federal 2010ADA requirements.

E82-24

E83-24

IBC: 1014.7; IFC: [BE] 1014.7

Proponents: Thomas Zuzik Jr, RailingCodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA.org) (coderep@railingcodes.com)

2024 International Building Code

Revise as follows:

1014.7 Handrail extensions.
Handrails shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight* of stairs or ramp run. Where *handrails* are not continuous between *flights*, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top landing nosing and continue to slope for the depth of one tread beyond the bottom tread nosing. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of *handrails* shall be in the same direction of the *flights* of stairs at stairways and the ramp runs at *ramps* and shall extend the required minimum length before any change in direction ~~or~~ and decrease in the clearance required by Section 1014.5 ~~or~~ and 1014.8.

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be accessible need extend only from the top ~~riser~~ nosing to the bottom ~~riser~~ nosing, within the flight.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the handrail extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between *flights* or to extend beyond the top or bottom risers.

2024 International Fire Code

Revise as follows:

[BE] 1014.7 Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent *flight* of stairs or *ramp* run. Where handrails are not continuous between *flights*, the handrails shall extend horizontally not less than 12 inches (305 mm) beyond the top landing nosing and continue to slope for the depth of one tread beyond the bottom tread nosing. At *ramps* where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the *flights* of stairs at stairways and the ramp runs at *ramps* and shall extend the required minimum length before any change in direction ~~or~~ and decrease in the clearance required by Section 1014.5 ~~or~~ and 1014.8.

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be accessible need extend only from the top ~~riser~~ nosing to the bottom ~~riser~~ nosing, within the flight.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the handrail extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ship's ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between *flights* or to extend beyond the top or bottom risers.

Reason: In the last code cycle E76-21 worked to align the handrail extensions requirements within the IBC with the requirements of the 2010ADA and 2017 ICC A117.1 standard.

However, 2 points that were brought up during testimony one at the Committee Action Hearings and the second at the Public Comment Hearings were not able to be completed.

In the current text "or" is located within in 2 parts of the text and they should be "and".

- Both are located in the last sentence of 1014.7 Handrail extensions.
  - The requirement within the text has 3 parts that need to be met for the full minimum extension length to be compliant, and remove conflict with the 2010ADA & 2017 A117.1.
  - No change in direction, hence "before any change in direction" the ~~or~~ needs to be removed afterwards and replaced with <u>and,</u> because this is first of the 3 requirements, not one option of 3 choices.
  - next the text "required by Section 1014.5 or 1014.8.", this should have read "required by Section 1014.5 and 1014.8."
    - This is the 2nd important change, as the handrail extension need to meet all 3 of these additional requirements for the full 12 inches before any reductions in clearance or changes in direction.
    - If you watch the videos of both the committee & public comment Hearings listed in the Biography of this proposal, you will clearly see this was the intent and an oversight in the text that needed to be cleaned up this cycle.
- Additionally, though measuring point of the handrail extension was corrected from riser to nosing during the public comment hearings in the main body of the code language, it was not caught in exception 1, thus, the term riser needs to be replaced with the term nosing to be in continuity with the rest of the building code, and the additional text added to the end clarifies within the flight.

Bibliography:

- E76-21 Prior code change cycle - ICC monograph
- ICC 2024 International Building Code
- 2010ADA - ADA Standards for Accessible Design (https://ada.gov/)
- 2017 ICC A117.1 Accessible and Usable Buildings and Facilities
- E76-21 Committee Action Hearings https://www.cdpaccess.com/videos/4370/
- E76-21 Public Comment Hearings https://www.cdpaccess.com/videos/4761/

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost impact to the built environment with this code change, as this proposal is cleaning up terminology for required elements of the code.

E83-24

E84-24

IBC: 1014.7; IFC: [BE] 1014.7

Proponents: Eirene Knott, BRR Architecture, BRR Architecture (eirene.knott@brrarch.com)

2024 International Building Code

Revise as follows:

1014.7 Handrail extensions.
Handrails shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight* of stairs or ramp run. Where *handrails* are not continuous between *flights*, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top landing nosing and continue to slope for the depth of one tread beyond the bottom tread nosing. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of *handrails* shall be in the same direction of the *flights* of stairs at stairways and the ramp runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.5 or 1014.8.44

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be accessible need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the handrail extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between *flights* or to extend beyond the top or bottom risers.
4. Handrails that are not required need extend only from the top riser to the bottom riser.

2024 International Fire Code

Revise as follows:

[BE] 1014.7 Handrail extensions.
Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent *flight* of stairs or *ramp* run. Where handrails are not continuous between *flights*, the handrails shall extend horizontally not less than 12 inches (305 mm) beyond the top landing nosing and continue to slope for the depth of one tread beyond the bottom tread nosing. At *ramps* where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of handrails shall be in the same direction of the *flights* of stairs at stairways and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.5 or 1014.8.

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be accessible need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the handrail extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ship's ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between *flights* or to extend beyond the top or bottom risers.
4. Handrails that are not required need extend only from the top riser to the bottom riser.

Reason: There are times when a handrail is not required, yet a designer or owner may decide to provide one. For example, per Section

1012.8, if a ramp has a rise of less than 6 inches, only one handrail is required. If a designer chooses to provide a handrail on both sides, do both handrails have to comply with 1014 or does only one need the extension or do any need the extension? There are some code officials that believe that if the handrail is provided, it must comply, whether or not the handrail is required. This language simply clarifies that if the handrail is not required, the extensions are also not required.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Technically, this could reduce the cost of construction if handrail extensions are not required to be provided when the handrail is not required.

E84-24

E85-24

IBC: 1014.8; IFC: [BE] 1014.8

Proponents: Thomas Zuzik Jr, RailingCodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA.org) (coderep@railingcodes.com)

2024 International Building Code

Revise as follows:

1014.8 Clearance.
Clear space between a *handrail* and a wall or other surface shall be not less than $1^1/_2$ inches (38 mm). A *handrail* and a wall or other surface adjacent to the *handrail* shall be free of any sharp or abrasive elements.

~~**Exceptions:**~~

1. ~~A decrease in the clearance due to the curvature or angle of handrail returns shall be allowed.~~
2. ~~Mounting flanges not more than $^1/_2$ inch (12.7 mm) in thickness at the returned ends of handrails shall be allowed.~~

2024 International Fire Code

Revise as follows:

[BE] 1014.8 Clearance. Clear space between a *handrail* and a wall or other surface shall be not less than $1^1/_2$ inches (38 mm). A *handrail* and a wall or other surface adjacent to the *handrail* shall be free of any sharp or abrasive elements.

~~**Exceptions:**~~

1. ~~A decrease in the clearance due to the curvature or angle of handrail returns shall be allowed.~~
2. ~~Mounting flanges not more than $^1/_2$ inch (12.7 mm) in thickness at the returned ends of handrails shall be allowed.~~

Reason: During the 2021 code cycle, code proposal E77-21 added the 2 exceptions into section 1014.8 Clearances with the intention to clarify that these 2 conditions are allowed to be done. However, they have always been allowed to be done in the IBC after the minimum handrail extension is met first. These exceptions now allow for these conditions prior to the minimum handrail extension being met.

The conflict these exceptions have created in the IBC is that neither of these exceptions are allowed to be done prior to the minimum extension length being met, first per Sections 505.5 & 505.6 in the 2017 ICC A117.1 Standard, and prior additions, and second the same Sections 505.5 & 505.6 in the 2010ADA - ADA Standards for Accessible Design.

Additionally, approved code change E76-21 was submitted by this author to specifically clarify in the model 2024 IBC so that the model IBC would no longer be in conflict with these requirements of A117.1 & 2010ADA, and this approved code change last cycle specifically allows these conditions to be done after the minimum extension length is met per Section 1014.7 which added the text, **"and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.5 or 1014.8.".**

With the clarification last code cycle on handrail extensions (E76-21) approved, these 2 exceptions will only create the loophole in compliance by allowing an exception, that is not allowed by 2010ADA, nor A117.1 within the minimum length of the handrail extension and was specifically at the heart of E76-21 to correct compliance conflicts.

The author understands that the model IBC, A117.1 standard and the 2010ADA are 3 independent documents, however, of the 3, the model IBC has the widest local inspection review being performed, and by aligning the requirements within the model IBC with the a117.1 standard and 2010ADA, not only improves the percentage of compliance with handrails on stair flights and ramps, but removes conflict when all 3 documents have the same requirements of compliance.

We respectfully ask that you approve this proposal to delete the exceptions as they are not needed and only create a looping conflict between the model IBC, 2017 A117.1 & 2010ADA.

Bibliography:

- E76-21 Prior code change cycle - ICC monograph
- E77-21 Prior code change cycle - ICC monograph
- ICC 2024 International Building Code
- 2010ADA - ADA Standards for Accessible Design (https://ada.gov/)
- 2017 ICC A117.1 Accessible and Usable Buildings and Facilities
- E76-21 Committee Action Hearings https://www.cdpaccess.com/videos/4370/
- E76-21 Public Comment Hearings https://www.cdpaccess.com/videos/4761/
- E77-21 Committee Action Hearings https://www.cdpaccess.com/videos/4373/

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposed code change does not change any cost, as it only aligns and clarifies the IBC with the required parameters within A117.1 & 2010ADA.

E85-24

E86-24

IBC: 1014.10; IFC: [BE] 1014.10

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1014.10 Intermediate handrails.
Stairways with a required width of greater than 60 inches, shall have intermediate *handrails* located in such a manner that all portions of the *stairway* minimum width or required capacity are within 30 inches (762 mm) of a *handrail*. On monumental *stairs*, where intermediate handrails are required, *handrails* shall be located along the most direct path of egress travel.

2024 International Fire Code

Revise as follows:

[BE] 1014.10 Intermediate handrails. *Stairways* with a required width of greater than 60 inches, shall have intermediate *handrails* located in such a manner that all portions of the *stairway* minimum width or required capacity are within 30 inches (762 mm) of a *handrail*. On monumental *stairs*, where intermediate handrails are required, *handrails* shall be located along the most direct path of egress travel.

Reason: The intermediate handrail requirement can be inadvertently read to require an intermediate handrail every 5', or to require a center handrail with a center door. This is a clarification for where they would be required. This is not a technical change.

Where there is sufficient distance for occupants to navigate to the sides of a monumental stairway the most direct path of egress, the centerline of the door to the exit, may not be the natural path.

This modification gives guidance to the building official to allow intermediate handrails to be installed in the correct locations.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification for the requirements for a central handrail on wider stairways.

E87-24

IBC: 1014.10; IFC: [BE] 1014.10

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1014.10 Intermediate handrails.
Stairways shall have intermediate *handrails* located in such a manner that all portions of the *stairway* minimum width or required capacity are within 30 inches (762 mm) of a *handrail*. Where intermediate *handrails* are required on ~~On monumental~~ *stairs in excess of the required width or required capacity*, *handrails* shall be located along the most direct path of egress travel.

2024 International Fire Code

Revise as follows:

[BE] 1014.10 Intermediate handrails. *Stairways* shall have intermediate *handrails* located in such a manner that all portions of the *stairway* minimum width or required capacity are within 30 inches (762 mm) of a *handrail*.Where intermediate *handrails* are required on ~~On monumental~~ *stairs in excess of the required width or required capacity*, *handrails* shall be located along the most direct path of egress travel.

Reason: What is a monumental stair? Ask different people and the answers will be varied. “Monumental stair” is not a defined term and interpretation is inconsistent. A search of the IBC shows that **1014.9** is the only place where the term “monumental stairs” is used so it would seem that a better description of the intent of the requirement would be more reasonable than adding a definition for a term that is used in a solitary requirement.

The intent of this requirement is to provide for handrails that are within the reach of the users on wider stairs. The intent of the second sentence of this requirement is to assure that functional intermediate handrails are provided for stairways that are designed with an aesthetic of exaggerated width in proportion to the required width /egress capacity.

Eliminating the vague and often misunderstood term of “Monumental” and inserting text to describe the condition will allow for consistent interpretation and enforcement.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The substitution language replaces a misunderstood term that lacks clear definition without technical change to the intent of the code. The change is of no consequence to the methods or cost of construction.

E88-24

IBC: 1015.2; IFC: [BE] 1015.2

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1015.2 Where required.
Guards shall be ~~located along~~ provided for those portions of open-sided walking surfaces, such as *mezzanines*, *equipment platforms*, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side and at the perimeter of *occupiable roofs* . *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where *approved guards* are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

2024 International Fire Code

Revise as follows:

[BE] 1015.2 Where required. *Guards* shall be ~~located along~~ provided for those portions of open-sided walking surfaces, such as *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side and at the perimeter of *occupiable roofs* . *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9 of the International Building Code.

Exception: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including *stairs* leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, *ramps* and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.

6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where approved guards are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

Reason: The change to the first sentence correlates with a similar change implemented in the 2021 IRC as shown below.

> **R312.1.1 Where required.** Guards shall be ***provided for those portions*** of open-sided walking surfaces, including ***floors***, stairs, ramps, and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard. (***emphasis added***)

Many guards are provided in areas where the elevation of the open sided walking surface is not constant. As in the IRC this change to the IBC clarifies the intent of the code to provide a guard only on that portion of an elevated surface exceeding the specified height above the floor or grade below.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0; This could decrease the cost of construction because less material and labor would be necessary however a guard would still be required at these locations, e.g. a portion of a guard above an inclined grade or at the lower portion of a stair or ramp where a handrail would still be required.

Estimated Immediate Cost Impact Justification (methodology and variables):

I cannot imagine there is anyway to quantify how much this will decrease the cost of construction which would likely be of little consequence.

E88-24

E89-24

IBC: 1015.2; IFC: [BE] 1015.2

Proponents: John Grenier, National Council of Structural Engineers' Associations (NCSEA) (jgrenier@greniereng.com)

2024 International Building Code

Revise as follows:

1015.2 Where required. *Guards* shall be located along open-sided walking surfaces, such as *mezzanines*, *equipment platforms*, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side, ~~and~~ at the perimeter of occupiable roofs, and at walking surfaces near retaining walls in accordance with Section 1807.2.5. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where *approved guards* are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

2024 International Fire Code

Revise as follows:

[BE] 1015.2 Where required. *Guards* shall be located along open-sided walking surfaces, such as *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side, ~~and~~ at the perimeter of *occupiable roofs*, and at walking surfaces near retaining walls in accordance with Section 1807.2.5 of the International Building Code. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9 of the International Building Code.

Exception: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including *stairs* leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, *ramps* and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.

7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where approved guards are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

Reason: 1. To clarify that walls and retaining walls associated with a building or a site, also require Guards to protect against falls.

2. Section **1807.2.5 Guards** was added to the 2024 IBC via code change proposal S157-22. The proposed new language in Section 1015.2 will be a pointer to that section.

3. The 2021 IBC Commentary states “Where one or more sides of a walking surface are open to the floor level or grade below, a guard system must be provided to minimize the possibility of occupants accidentally falling to the surface below”. The pointer to section 1807.2.5 is important to eliminate potential confusion and possible misunderstanding that walls and retaining walls are not governed by the IBC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The requirement for guards at retaining walls is in Section 1807.2.5, so this is just pointing to that guard requirement.

E89-24

E90-24

IBC: 1015.2; IFC: [BE] 1015.2

Proponents: David Renn, PE, SE, City and County of Denver, Colorado Chapter Code Development Committee (david.renn@denvergov.org)

2024 International Building Code

Revise as follows:

1015.2 Where required.

Guards shall be located along open-sided walking surfaces, such as *mezzanines*, *equipment platforms*, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side and at the perimeter of *occupiable roofs*. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where ~~*approved* guards~~ are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

2024 International Fire Code

Revise as follows:

[BE] 1015.2 Where required.

Guards shall be located along open-sided walking surfaces, such as *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side and at the perimeter of *occupiable roofs* . *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9 of the International Building Code.

Exception: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including *stairs* leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, *ramps* and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.

6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an *occupiable roof* located less than 30 inches (762 mm) measured vertically to adjacent unoccupiable roof areas where ~~approved~~ guards are present at the perimeter of the roof.
10. At portions of an *occupiable roof* where an *approved* barrier is provided.

Reason: Section 1015.1 requires guards to comply with the provisions of 1015.2 through 1015.7, which include very specific requirements like minimum height and opening limitations. However, Exception 9 to 1015.2 introduces the term "approved guard". "Approved" is a defined term that means "acceptable to the building official". By using this term, the building official is now allowed to increase or decrease the specific requirements for a guard - maybe reducing the height to 36" instead of 42", maybe increasing height to 48", maybe allowing larger openings.

I don't believe the intent of this section is to allow a guard at the edge of a roof, that is intended to minimize the possibility of a fall from the roof, to be allowed to have different requirements than specifically required in 1015 for guards. This could set up a potentially dangerous situation, such as a building official allowing 21" openings as allowed near rooftop mechanical equipment instead of requiring the typical 4" maximum opening that would prevent a child from falling through the guard.

This proposal simply removes the word "approved" from "approved guard", so the minimum requirements for guards are provided.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal makes revisions that align the code with the intent of the code, which I believe is currently being enforced, so there will be no cost impact.

E90-24

E91-24

IBC: 1015.3; IFC: [BE] 1015.3

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org)

2024 International Building Code

Revise as follows:

1015.3 Height.
Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the *nosings*.
3. On *ramps* and ramped *aisles*, from the ramp surface at the guard.

Exceptions:

1. For occupancies in Group R-3 not more than three *stories* above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three *stories* above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Groups R-2 and R-3, within the interior conditioned space of individual *dwelling units*, where the open-sided walking surface is located not more than 25 feet (7.62 meters) measured vertically to the floor or walking surface below, required *guards* shall not be less than 36 inches (914 mm) in height measured vertically above the adjacent walking surface.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the *nosings* .
4. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the l *nosings* .
5. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard on the open side of stairs serves as a handrail, the height of the guard transition at the top of a flight is permitted to be less than the required guard height for a distance over the landing not greater than 12 inches (305 mm) as measured horizontally from the landing nosing.

~~5~~6. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.

~~6~~7. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from a line connecting the leading edge of the treads.

~~7~~8. In Group F occupancies where *exit access stairways* serve fewer than three *stories* and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the nosings.

2024 International Fire Code

Revise as follows:

[BE] 1015.3 Height.
Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.

2. On *stairways* and stepped *aisles*, from the line connecting the *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the *guard*.

Exceptions:

1. For occupancies in Group R-3 not more than three *stories* above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three *stories* above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Groups R-2 and R-3, within the interior conditioned space of individual *dwelling units*, where the open-sided walking surface is located not more than 25 feet (7.62 meters) measured vertically to the floor or walking surface below, required *guards* shall not be less than 36 inches (914 mm) in height measured vertically above the adjacent walking surface.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the *nosings* .
4. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the l *nosings* .
5. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard on the open side of stairs serves as a handrail, the height of the guard transition at the top of a flight is permitted to be less than the required guard height for a distance over the landing not greater than 12 inches (305 mm) as measured horizontally from the landing nosing.

~~5~~6. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.

~~6~~7. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from a line connecting the leading edge of the treads.

~~7~~8. In Group F occupancies where *exit access stairways* serve fewer than three *stories* and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the nosings.

Reason: In the residencies cited in the new exception the required handrail/stair guard height is 34 – 38 inches. The handrail/stair guard often intersects an adjacent landing guard at the top of a flight. The guard at an open sided landing measured from the walking surface of the landing has a minimum height of 36 inches but has no maximum. Typically guards at a landing may be at a height of as much as 42 inches. The typical difference in height between handrail and level guard is 4 -8 inches directly over the top riser. At this point the handrail must be 34-38".

However, the floor surface at the nosing of the landing, from which guard height is determined, extends as much as 1 1/4 inches beyond the top riser. The resulting landing guard is typically 4 - 8 inches higher than the handrail that is required to be continuous to a point directly over the top riser. This presents a conflict in determining whether the guard height or the handrail height is to be accommodated at this intersection of handrail and guard. This can especially problematic when the occupant has children and requests the handrail be positioned as low as possible.

In most situations a continuous transition is preferred to achieve integrity of the design for safety, structural and aesthetic concerns. However, the strictest interpretation of the code only provides for a more vertical transition from as low as 34 inches to 42 inches to achieve both handrail and guard height requirements. Although an exception to handrail height allows for a handrail fitting to exceed the required handrail height it is often better to allow the handrail height to remain constant and afford an inconsequential reduction of the required guard height for a short distance.

Some might apply the opening limitation requirements when interpreting this situation however, this is not always the case. This proposal

will allow for consistent interpretation of a smooth transition of the handrail/guard of the stair with the guard at an open sided landing and extension of the handrail at constant height. The horizontal dimension of 12 inches provides the necessary distance to configure an extension of the handrail without undue compromise of the guard's function to minimize the possibility of a fall to the floor or grade below. See figures 1 & 2.

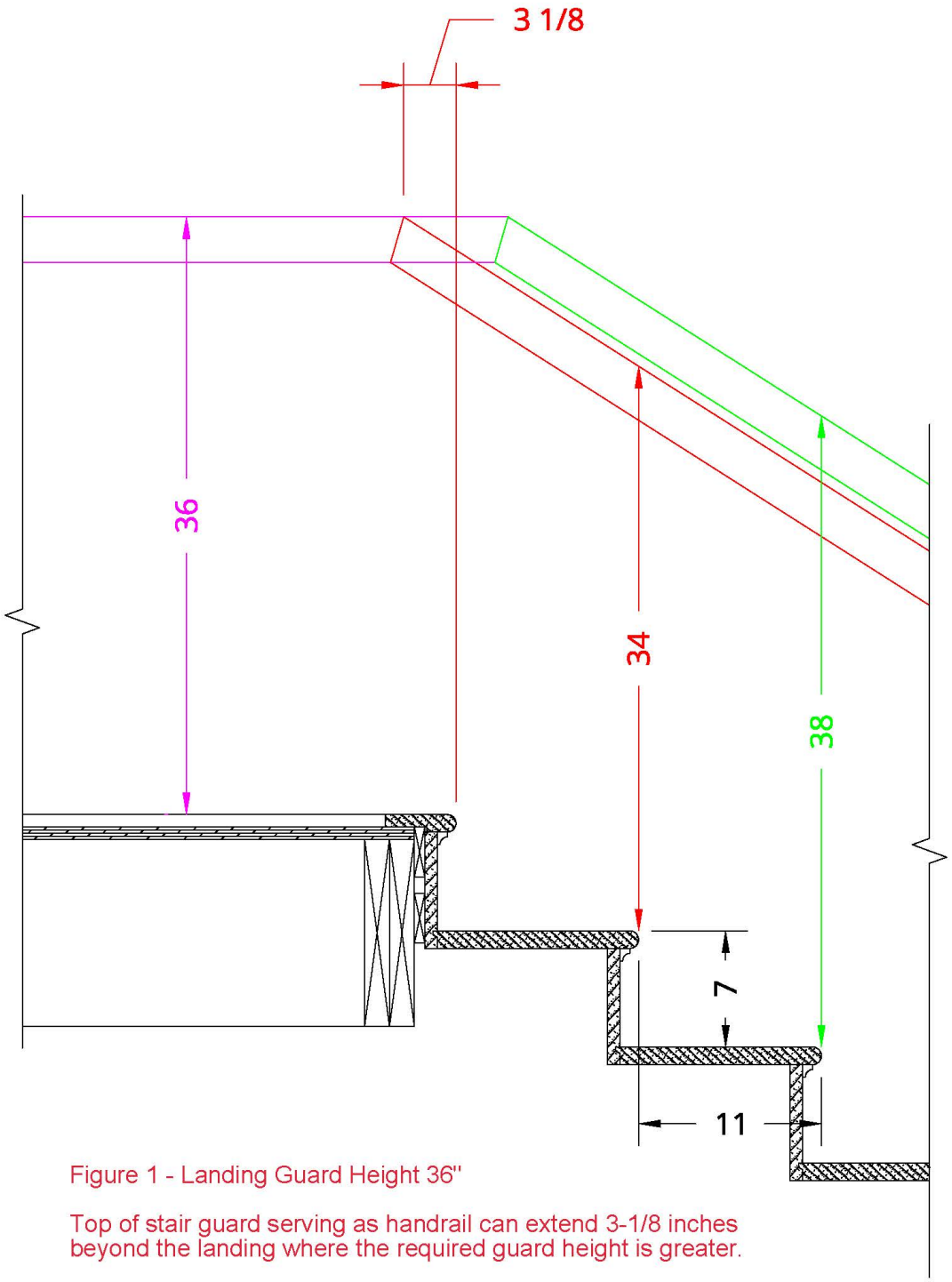


Figure 1 - Landing Guard Height 36"

Top of stair guard serving as handrail can extend 3-1/8 inches beyond the landing where the required guard height is greater.

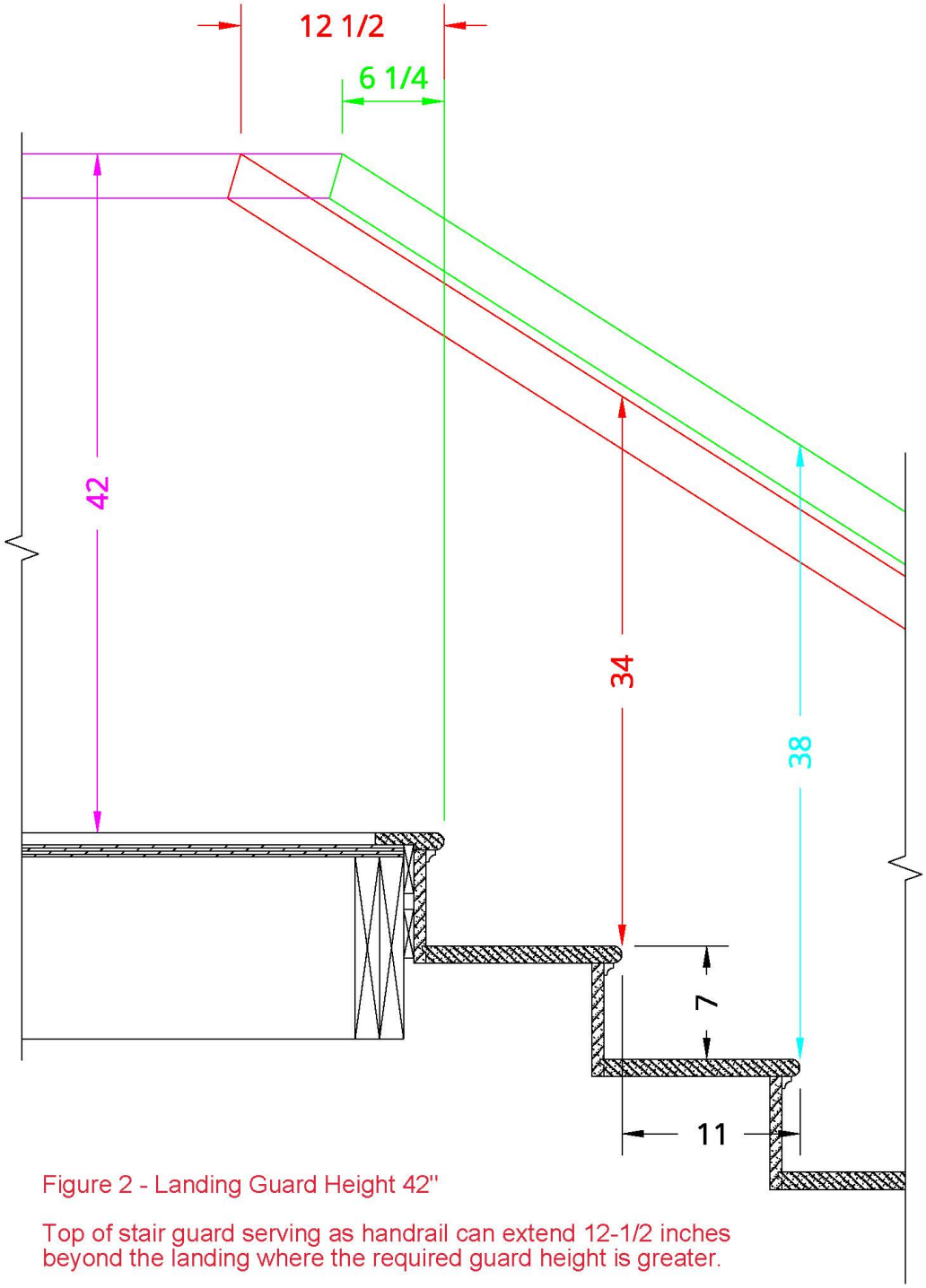


Figure 2 - Landing Guard Height 42"

Top of stair guard serving as handrail can extend 12-1/2 inches beyond the landing where the required guard height is greater.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The technical changes only provide for an alternate location of the related elements. There is no change in the material or labor required that has any consequence upon the cost of construction.

E92-24

IBC: 1015.4, ASTM Chapter 35 (New); IFC: [BE] 1015.4, ASTM Chapter 80 (New)

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association, SMA (coderep@stairways.org); Thomas Zuzik Jr, RailingCodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA.org) (coderep@railingcodes.com)

2024 International Building Code

Revise as follows:

1015.4 Opening limitations.
Required *guards* shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required *guard* height.The required opening limitation shall not be exceeded when a load of 16.5 pounds is applied with a cone in accordance with Test method D of ASTM E935.

Exceptions:

1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), *guards* shall not have openings that allow passage of a sphere $4\frac{3}{8}$ inches (111 mm) in diameter.
2. The triangular openings at the open sides of a *stair*, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, *guards* shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for *alternating tread devices* and ships ladders, *guards* shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, *guards* required at the end of *aisles* in accordance with Section 1030.17.4 shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, *guards* shall not have openings that allow passage of a sphere 8 inches (203 mm) in diameter.
6. Within individual *dwelling units* and *sleeping units* in Group R-2 and R-3 occupancies, *guards* on the open sides of *stairs* shall not have openings that allow passage of a sphere $4\frac{3}{8}$ (111 mm) inches in diameter.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

E935-00	**Standard Test Methods for Performance of Permanent Railing Systems and Rails for Buildings**

2024 International Fire Code

Revise as follows:

[BE] 1015.4 Opening limitations.
Required *guards* shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required *guard* height. The required opening limitation shall not be exceeded when a load of 16.5 pounds is applied with a cone in accordance with Test method D of ASTM E935.

Exceptions:

1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), *guards* shall not have openings that allow passage of a sphere $4\frac{3}{8}$ inches (111 mm) in diameter.

2. The triangular openings at the open sides of a *stair*, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, *guards* shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for *alternating tread devices* and ship's ladders, *guards* shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, *guards* required at the end of *aisles* in accordance with Section 1030.17.4 shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, *guards* shall not have openings that allow passage of a sphere 8 inches (203 mm) in diameter.
6. Within individual *dwelling units* and *sleeping units* in Group R-2 and R-3 occupancies, *guards* on the open sides of *stairs* shall not have openings that allow passage of a sphere $4\frac{3}{8}$ (111 mm) inches in diameter.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

E935-00 **Standard Test Methods for Performance of Permanent Railing Systems and Rails for Buildings**

Staff Analysis: A review of the standard proposed for inclusion in the code, ASTM E935-00, Standard Test Methods for Performance of Permanent Railing Systems and Rails for Buildings, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

There is a 2021 edition to ASTM 935. The proposal references the 2000 edition. This standard would be subject to the administrative update proposal next cycle.

Reason: The issue of how to regulate opening limitation when the rigidity of in-fill elements is a factor has been a problem discussed in several cycles of the code without resolution. Most recently in the last cycle in both IBC-S and IRC. Enforcement is all over the map with sundry interpretive methods of enforcement that are clearly not defined in the code. They range from hanging weights to plucking the members like tuning a stringed instrument. All involved; manufacturer, installer and enforcement agree that the code needs to address the issue and provide guidance to ensure consistent determination of compliance.

Let's be clear opening limitations are a dimensional requirement and not a structural load. We have a structural live load requirement that addresses structural integrity. Opening limitations restrict the opening in an effort to minimize the possibility of fall-through accidents. However, it is reasonable to assume that flexible in-fill elements should be closer together in consideration of some kind of load that could separate the elements beyond the required opening limitation. The design live load requirement might be a place to start realizing this load would induce failure of the in-fill and any greater load would not be consequent to in-fill spread. If the guard has failed there is no guard to minimize the possibility of a fall-through. The in-fill design load is 50 pounds per square ft however the area between infill members is only a small portion of a square foot so it is reasonable to assume that only a portion of the load is applicable. A decrease in the load/square foot in proportion to the size of the area between any two in-fill elements has been reasoned in each of the more recent proposals and modifications from the last cycle and is included here. Past proposals agree with dividing the load but have disagreed with how to apply the load and measure the opening limitation.

There is no reason to reinvent the wheel. An existing ASTM test is expressly for this purpose. This proposal simply references the Test Method D cone test for in-fill spread first published in ASTM E935-91 and again in ASTM E935-00. (Test Method D was not included in subsequent additions of the standard for "lack of use". In conversation with those responsible they informed us it would be reinstituted if used.) The load of 16.5 pounds was quantified through documented in-house testing. The full report is referenced in the bibliography at the link provided.

Furthermore, for those wishing to know more than the summary information, in the last code Cycle, the two proposals took a closer look at the widely misinterpreted operation of measuring opening limitation within a guard's infill. One looked to specifically clarify that opening limitation is a measurement and not a load test in the IRC, and the second under S102-22 looked at adding a load requirement in the IBC

only to the spreading of wire rope cables used for guard infill. This current proposal builds upon both these prior proposals but provides a much simpler method of verification for the spreading of all types of infill and is based on the decades old E935-91 ASTM standard, first published in 1983, then updated in 1991 with the infill spread test method D, that has been used by quality fabricators since its inception but has never previously been adopted into the model codes.

S102-22 IBC PROPOSAL:

The proponents of S102-22 in the last cycle focused on a singular type of infill, wire cables, and not all infill as this code requirement should. We believe that S102-22 as originally written was flawed and incomplete. It only applied the requirement to a single infill material type, and the logic used to establish the basis for the prescribed loads, that of dividing the load by the number of wire cables within 12 inches lacked documentation or explanation for the prescribed load or its application.

This current proposal adds an infill spread requirement into the model code based on the published ASTM testing method written specifically for the testing of infill spreading within metal guard systems and applying this method to all guard materials and types.

ESTABLISHED ASTM TESTING METHOD

In the ASTM E935-00 Standard edition the method for testing infill spread is provided and titled as; “Test Method D – Application of Horizontal Static Load to Determine Resistance to Cone Penetration by Infill Area of Baluster and Panel Railing Systems.”

The "Test Method D" criteria specifies a cone, not a sphere, that is 25-percent larger than the maximum permissible spacing between balusters and other infill elements. The cone allows for smooth separation and consistent measurement of the opening limitation as the load is applied and accurate final measurement of the spread at the maximum required load. Both the cone and the ASTM standards methodology provides for the accurate validation of the code required measurement of the opening limitation dimension, and under what would be the maximum load prior to failure of the guard in-fill. This is not a structural load requirement but rather a test method for confirmation of compliance with the infill opening limitation dimensions of the model codes.

CORRELATING THE CONE TEST AND THE OPENING LIMIT DIMENSION

The proponents last cycle of S102-22 focused on wire cables, as they are the most scrutinized type of infill for infill spreading concerns and the tensioning parameters. For this reason, we are limiting the rest of our discussion for the reason statement to the most common wire cable used in the built environment 1/8-1x19, one of the most flexible types of infill used in guard systems today. Though this proposal adds the requirement to all infill, by far flexible cable infill is the most affected type of infill the new model code requirement will affect.

S102-22 prescribed a method to divide a 50lb load by the number of cables within 12-inches to establish a minimum tension to prevent a sphere from passing. This translates into a few numbers with the first number being based on 3 wire cables translating into 16.66 lbs, next 4 wire cables translate into 12.5 lbs and 5 wire cables translate into 10 lbs. The authors of S102-22 did not however provide any documentation as to how any of these numbers were validated. The proponent of the current proposal, through a compilation of in-house testing to validate engineered calculations for the 16.5lb load required in this proposal has correlated this number for the smallest 4-inch limit from results of the cone infill penetration method from ASTM E935-00 Part D, on 1/8-1x19 wire cables installed in a sample guard system with 3-inch on-center spacing of the cables and 36-inches clear span between stabilizers. The tension of the cables is also directly affected by the length of the cable and a chart is provided further down in this reason statement. The tension during testing can be directly correlated to those listed in the chart.

SAFE INFILL – SAFE CABLE DESIGN LOADS DETERMINE THE LOAD TO BE APPLIED

The tensioning, stiffness and resistance of the infill is directly related to the material and with wire cable this is directly related to safe cable design loads. With 1/8-1x19 stainless steel wire cable the listed minimum break point is 1,869 lbs. Simply, the wire cable will break at approximately 1,869 lbs. Thus, industry-based safety factors are designated as Safe workload and Maximum Cable Pretension for Cable Rail Installations.

The Safe workload limit is based on 20% of the break load and Maximum Cable Pretension for Cable Rail installations is 25% of the break load. This translates into a 373 lbs safe workload and 467 lbs Maximum Pretension Load for 1/8-1x19 SS wire cable. A chart of other cable sizes and types are listed on the website link provided.

The chart shown below shows the tension required for each 1/8-1x19 ss wire cable to meet the proposed 16.5 lbs load presented in this current proposal for cable. The tensions shown are based on 3-inch centerlines on the cable installation. The left column provides the clear open free span between stabilizers. Both cable length and clear span between stabilizers of the framework that makes up the

structure holding the cables in place and in tension, directly affects the tension required to meet the cone penetration designated within this proposal. The chart depicts the loads and shows when safe workloads are exceeded.

	Cable Length (ft)									
Free Span (in)	5	10	15	20	25	30	40	50	60	70
34.5"	208	248	261	268	272	275	278	289	337	371
36"	224	262	275	281	285	288	299	326	372	-
37.5"	240	276	289	295	307	317	329	362	-	-
39"	255	290	302	325	340	349	361	-	-	-
40.5"	270	304	336	359	373	-	-	-	-	-
42"	285	328	372	-	-	-	-	-	-	-

Bibliography: ASTM E935-91 & E935-00

ASTM E935-xx Current edition approved Aug. 1, 2021. Published September 2021. Originally approved in 1983. Last previous edition approved in 2013 as E935–13ε1.

ICC ES AC273 Current edition editorially revised May 2021. Originally approved in 2004. Last previous edition approved in June 2017.

S102-22

S102-22 Public Comment 1

S102-22 Public Comment 2

https://stairways.org/guard-opening-limitations/

Cost Impact: Increase

Estimated Immediate Cost Impact:

A typical job of 50 lineal feet of cable rail may require additional vertical elements to reduce the span costing an additional $250.00.
5 intermediate ¼ inch x 1 ¼ inch stainless steel cable supports installed at $50.00 each = $50.00

Estimated Immediate Cost Impact Justification (methodology and variables):

This code change provides a method for determination of the opening limitation in guards with flexible infill and does not directly change any requirements for guard construction. However where the more flexible materials such as 1/8-1x19 stainless steel wire cable the spans may need to be reduced. This will not affect the cost of wood, metal, or glass balustrades that comply with all other code requirements for guard construction.

E92-24

E93-24

IBC: TABLE 1017.2; IFC: [BE] TABLE 1017.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

1017.2 Limitations.

Exit access travel distance shall not exceed the values given in Table 1017.2.

Revise as follows:

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT AUTOMATIC SPRINKLER SYSTEM (feet)	WITH AUTOMATIC SPRINKLER SYSTEM (feet)	
	NS	S, S13R	S13D
A, E, F-1, M, ~~R,~~ S-1	200[e]	250[b]	NP
R-1	NP	250	NP
R-2, R-3[c], R-4[c]	NP	250	200
I-1	~~Not Permitted~~ NP	250[b]	NP
B	200	300[e]	NP
F-2, S-2, U	300	400[e]	NP
H-1	~~Not Permitted~~ NP	75[b~~d~~]	NP
H-2	~~Not Permitted~~ NP	100[b~~d~~]	NP
H-3	~~Not Permitted~~ NP	150[b~~d~~]	NP
H-4	~~Not Permitted~~ NP	175[b~~d~~]	NP
H-5	~~Not Permitted~~ NP	200[e]	NP
I-2, I-3	~~Not Permitted~~ NP	200[e]	NP
I-4	150	200[e]	NP

For SI: 1 foot = 304.8 mm. NP = Not Permitted.

NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.2.8 and 903.3.1.3.

a. See the following sections for modifications to exit access travel distance requirements:

   Section 402.8: For the distance limitation in malls.

   Section 407.4: For the distance limitation in Group I-2.

   Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.

   Section 411.2: For the distance limitation in special amusement areas.

   Section 412.6: For the distance limitations in aircraft manufacturing facilities.

   Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.

   Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.

   Section 1006.3.4: For buildings with one exit.

   Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.

   Section 1017.2.3: For increased distance limitation in Group H-5.

   Section 1030.7: For increased limitation in assembly seating.

   Section 3103.4: For temporary structures.

   Section 3104.9: For pedestrian walkways.

~~b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.~~

b.~~d~~ Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1.

c. ~~Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.~~The exit access travel distance shall only apply in a Group R-3 and R-4 occupancy located in a mixed occupancy building.

2024 International Fire Code

[BE] 1017.2 Limitations.
Exit access travel distance shall not exceed the values given in Table 1017.2.

Revise as follows:

[BE] TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT AUTOMATIC SPRINKLER SYSTEM (feet)	WITH AUTOMATIC SPRINKLER SYSTEM (feet)	
	NS	S, S13R	S13D
A, E, F-1, M, ~~R,~~ S-1	200	250[~~b, c~~]	NP
R-1	NP	250	NP
R-2, R-3[c], R-4[c]	NP	250	200
I-1	~~Not Permitted~~ NP	250[~~b~~]	NP
B	200	300[~~c~~]	NP
F-2, S-2, U	300	400[~~c~~]	NP
H-1	~~Not Permitted~~ NP	75[~~b d~~]	NP
H-2	~~Not Permitted~~ NP	100[~~b d~~]	NP
H-3	~~Not Permitted~~ NP	150[~~b d~~]	NP
H-4	~~Not Permitted~~ NP	175[~~b d~~]	NP
H-5	~~Not Permitted~~ NP	200[~~c~~]	NP
I-2, I-3	~~Not Permitted~~ NP	200[~~c~~]	NP
I-4	150	200[~~c~~]	NP

For SI: 1 foot = 304.8 mm. NP = Not Permitted.

NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.2.8 and 903.3.1.3.

a. See the following sections for modifications to exit access travel distance requirements:

Section 402.8 of the International Building Code: For the distance limitation in malls.

Section 407.4 of the International Building Code: For the distance limitation in Group I-2.

Sections 408.6.1 and 408.8.1 of the International Building Code: For the distance limitations in Group I-3.

Section 411.2 of the International Building Code: For the distance limitation in special amusement areas.

Section 412.6 of the International Building Code: For the distance limitations in aircraft manufacturing facilities.

Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.

Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.

Section 1006.3.4: For buildings with one exit.

Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.

Section 1017.2.3: For increased distance limitation in Group H-5.

Section 1030.7: For increased limitation in assembly seating.

Section 3103.4 of the International Building Code: For temporary structures.

Section 3104.9 of the International Building Code: For pedestrian walkways.

~~b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.~~

~~c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.~~

b~~c~~. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1.

~~e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.~~

c. The exit access travel distance shall only apply in a Group R-3 and R-4 occupancy located in a mixed occupancy building.

Reason: The intent of this group of proposal is to make the tables in Chapter8 and 10 consistent with the revisions to Table 504.3, 504.4, 506.2 – using S13, S13R, S13D and NP for sprinkler requirements. This would clarify what happens when an NFPA 13D sprinkler system is used. This is not intent to change current allowances; just to clarify what requirements are applicable for an NFPA13D system.

Discussion during the BCAC calls has indicated that it is needed to identifying specific code sections so that everyone has the same understanding.

Group R-4 requirements do not always have to be stated as Section 310.5 states “Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.” However, since a lot of people miss that, we are including R-4 in the proposed applicable footnotes.

Townhouses are defined as attached dwelling units that extend from foundation to grade and are open on at least two sides. If a townhouse is 3 stories or less, it can choose to comply with the IBC or IRC (Section 101.2). The IRC Section P2904 is similar to an NFPA 13D system. If the IBC is used, townhouses subdivided by firewalls into 1 or 2 units per building is a Group R-3 (Section 310.4) and townhouses subdivided by fire partitions (Section 420.2) are a Group R-2 (Section 310.3). This is important to clarify because all townhouses can use a 13D sprinkler system: Section 903.2.8 references 903.3, and 903.1.3.3 specifically stating that “Automatic sprinkler systems installed in … and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D.” To make this obvious in the tables, a reference to 903.2.8 and 903.1.3.3 are added in the footnote.

Specifics for this change –

- adds the S13, S13R, S13D and NS in the table titles and footnotes with the section references for sprinklers.
- add columns for NFPA13D and rows to separate out Group R requirements.
- Footnotes b, c and e are redundant and deleted.

- The new footnote is added to coordinate with the singe exit allowance in Section 1006.3.4 Item 4.
- “NP” instead of “not permitted” is for consistency in table styles.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements for Group R where an NFPA13D system is permitted. There are no changes to construction requirements.

E93-24

E94-24

IBC: 1017.2.3; IFC: [BE] 1017.2.3

Proponents: William Koffel, Koffel Associates, Inc., Semiconductor Industry Association (wkoffel@koffel.com)

2024 International Building Code

Revise as follows:

1017.2.3 Group H-5 increase.
The maximum exit access travel distance shall be 300 feet (91 m) in the *fabrication areas* of Group H-5 occupancies where all of the following conditions are met:

1. The width of the *fabrication area* is 300 feet (91 m) or greater.
2. The area of the *fabrication area* is 220,000 square feet (18 600 m^2) or greater.
3. The height of the *fabrication area*, measured between the raised metal floor and the clean filter ceiling, is 16 feet (48 768 mm) or greater.
4. The supply ventilation rate is 20 cubic feet per minute per square foot (0.556 $m^3/min/m^2$) or greater and shall remain operational.
5. A smoke detection system with remote indication and manual shutoff capability at the emergency control station is required.

2024 International Fire Code

Revise as follows:

[BE] 1017.2.3 Group H-5 increase.
The maximum *exit access* travel distance shall be 300 feet (91 m) in the fabrication areas of Group H-5 occupancies where all of the following conditions are met:

1. The width of the *fabrication area* is 300 feet (91 m) or greater.
2. The area of the *fabrication area* is 220,000 square feet (18 600 m^2) or greater.
3. The height of the *fabrication area*, measured between the raised metal floor and the clean filter ceiling, is 16 feet (48 768 mm) or greater.
4. The supply ventilation rate is 20 cubic feet per minute per square foot (0.556 $m^3/min/m^2$) or greater and shall remain operational.
5. A smoke detection system with remote indication and manual shutoff capability at the emergency control station is required.

Reason: The modeling that was done to support the increased travel distance assumed that the ventilation would continue to operate. the proposal requires that smoke detection activate a remote indication at the emergency control station where manual shut-down of the ventilation system can occur, when appropriate. Related changes have been submitted to Chapter 9 of the IBC and Chapter 6 of the IMC to allow for the manual shutdown of the HVAC system as required by this proposal.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The increased travel distance was based upon modeling which assumed that the ventilation system would continue to operate. This proposal, as well as the related changes to Chapter 9 of the IBC and Chapter 6 of the IMC, allow for the system to continue to operate provided manual shutdown capability is provided.

E95-24

IBC: TABLE 1020.2; IFC: [BE] TABLE 1020.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

1020.2 Construction.

Corridors shall be fire-resistance rated in accordance with Table 1020.2. The *corridor* walls required to be fire-resistance rated shall comply with Section 708 for *fire partitions*.

Exceptions:

1. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A *fire-resistance rating* is not required for *corridors* contained within a *dwelling unit* or *sleeping unit* in an occupancy in Groups I-1 and R.
3. A *fire-resistance rating* is not required for *corridors* in *open parking garages*.
4. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group B that is a space requiring only a single *means of egress* complying with Section 1006.2.
5. *Corridors* adjacent to the *exterior walls* of *buildings* shall be permitted to have unprotected openings on unrated *exterior walls* where unrated walls are permitted by Table 705.5 and unprotected openings are permitted by Table 705.9.

Revise as follows:

TABLE 1020.2 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)		
		Without automatic sprinkler system	With automatic sprinkler system	
		NS	S, S13R	S13D
H-1, H-2, H-3	All	~~Not Permitted~~ NP	1[e]	NP
H-4, H-5	Greater than 30	~~Not Permitted~~ NP	1[e]	NP
A, B, E, F, M, S, U	Greater than 30	1	0	NP
R	Greater than 10	~~Not Permitted~~ NP	0.5[e],4[d]	1[c]
I-2[a]	All	~~Not Permitted~~ NP	0	NP
I-1, I-3	All	~~Not Permitted~~ NP	1[b, e]	NP
I-4	All	1	0	NP

NP = Not Permitted.

NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.

b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8.

~~c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.~~

~~d. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.~~

c. The corridor fire resistance rating shall only apply to exit access corridors outside of the unit in a Group R-3 and R-4 occupancy located in a mixed occupancy building.

2024 International Fire Code

[BE] 1020.2 Construction.

Corridors shall be *fire-resistance rated* in accordance with Table 1020.2. The *corridor* walls required to be *fire-resistance rated* shall comply with Section 708 of the International Building Code for *fire partitions*.

Exceptions:

1. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required *means of egress* doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A *fire-resistance rating* is not required for *corridors* contained within a *dwelling unit* or *sleeping unit* in an occupancy in Groups I-1 and R.
3. A *fire-resistance rating* is not required for *corridors* in open parking garages.
4. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group B that is a space requiring only a single *means of egress* complying with Section 1006.2.
5. *Corridors* adjacent to the *exterior walls* of buildings shall be permitted to have unprotected openings on unrated *exterior walls* where unrated walls are permitted by Table 705.5 of the International Building Code and unprotected openings are permitted by Table 705.9 of the International Building Code.

Revise as follows:

[BE] TABLE 1020.2 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)		
		Without automatic sprinkler system	With automatic sprinkler system	
		NS	S, S13R	S13D
H-1, H-2, H-3	All	~~Not Permitted~~ NP	1[e]	NP
H-4, H-5	Greater than 30	~~Not Permitted~~ NP	1[e]	NP
A, B, E, F, M, S, U	Greater than 30	1	0	NP
R	Greater than 10	~~Not Permitted~~ NP	0.5 ~~1~~[e,d]	1[c]
I-2[a]	All	~~Not Permitted~~ NP	0	NP
I-1, I-3	All	~~Not Permitted~~ NP	1[b, e]	NP
I-4	All	1	0	NP

a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3 of the International Building Code.

b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8 of the International Building Code.

~~c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.~~

~~d. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.~~

c. The corridor fire resistance rating shall only apply to exit access corridors outside of the unit in a Group R-3 and R-4 occupancy located in a mixed occupancy building.

Reason: The intent of this group of proposal is to make the tables in Chapter8 and 10 consistent with the revisions to Table 504.3, 504.4, 506.2 – using S13, S13R, S13D and NP for sprinkler requirement. This would clarify what happens when an NFPA 13D sprinkler system is used. This is not intent to change current allowances; just to clarify what requirements are applicable for an NFPA13D system.

Discussion during the BCAC calls has indicated that it is needed to identifying specific code sections so that everyone has the same understanding.

Group R-4 requirements do not always have to be stated as Section 310.5 states "Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code." However, since a lot of people miss that, we are including R-4 in the proposed applicable footnotes.

Townhouses are defined as attached dwelling units that extend from foundation to grade and are open on at least two sides. If a townhouse is 3 stories or less, it can choose to comply with the IBC or IRC (Section 101.2). The IRC Section P2904 is similar to an NFPA 13D system. If the IBC is used, townhouses subdivide by firewalls into 1 or 2 units per building is a Group R-3 (Section 310.4) and townhouses subdivided by fire partitions (Section 420.2) are a Group R-2 (Section 310.3). This is important to clarify because all townhouses can use a 13D sprinkler system: Section 903.2.8 references 903.3, and 903.1.3.3 specifically stating that "Automatic sprinkler systems installed in … and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D." To make this obvious in the tables, a reference to 903.2.8 and 903.1.3.3 are added in the footnote.

Specifics for this change –

- adds the S13, S13R, S13D and NS in the table titles and footnotes with the section references for sprinklers.
- add column for NFPA13D.
- Footnote c and d are redundant and deleted.
- The new footnote is added to coordinate with the singe exit allowance in Section 1006.3.4 Item 4.
- "NP" instead of "not permitted" is for consistency in table styles.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements for Group R where an NFPA13D system is permitted. There are no changes to construction requirements.

E95-24

E96-24

IBC: TABLE 1020.2; IFC: [BE] TABLE 1020.2

Proponents: Richard Walke, Creative Technology Inc., SAFTIFIRST (richwalke61@gmail.com)

2024 International Building Code

Revise as follows:

TABLE 1020.2 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without automatic sprinkler system	With automatic sprinkler system
H-1, H-2, H-3	All	Not Permitted	1[c]
H-4, H-5	Greater than 30	Not Permitted	1[c]
A, B, ~~E,~~ F, M, S, U	Greater than 30	1	0
E	All	1	1
R	Greater than 10	Not Permitted	0.5[c]/1[d]
I-2[a]	All	Not Permitted	0
I-1, I-3	All	Not Permitted	1[b, c]
I-4	All	1	0

a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.

b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.

d. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

2024 International Fire Code

Revise as follows:

[BE] TABLE 1020.2 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without automatic sprinkler system	With automatic sprinkler system
H-1, H-2, H-3	All	Not Permitted	1[c]
H-4, H-5	Greater than 30	Not Permitted	1[c]
A, B, ~~E,~~ F, M, S, U	Greater than 30	1	0
E	All	1	1
R	Greater than 10	Not Permitted	0.5[c]/1[d]
I-2[a]	All	Not Permitted	0
I-1, I-3	All	Not Permitted	1[b, c]
I-4	All	1	0

a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3 of the International Building Code.

b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8 of the International Building Code.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.

d. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

Reason: This proposal is intended add a requirement for a 1 hr fire-resistance rating on corridor walls in sprinkled E Occupancies. It emulates an amendment which was made when the City of Chicago adopted the International Building Code.

The City of Chicago suffered a tragic loss of ninety-two students and three nuns during the Our Lady of the Angels School Fire on December 1, 1958. Many of these lives were lost due to flames and smoke blocking their normal means of egress. No doubt this fire and the tragic loss of life was on the minds of the City Council members when amending their code. And it should be on our minds when considering this proposal. There is no more important a responsibility we as a collective group should have here this week than to protect the lives of our children and grandchildren through requirements for safe building construction methods.

The need for rated corridors was removed for the sprinkled occupancies during the transition from the legacy codes to the International Building Code. Since that time, if I have heard it once, I have heard it one hundred times, “We need to reinstate the requirement for rated corridors in our schools.” So here is our opportunity.

When voting on this proposal, please keep in mind the chaotic environment which would exist in a school fire. Even though the students and facility do practice fire drills, an actual fire is far different. The practiced means of egress may not be available due to fire, smoke and toxic gases. So having the redundancy of sprinklers and fire-resistance-rated construction certainly increases the likely-hood of a safe ending to a school fire. Please vote to reinstate the requirement for protecting corridors in sprinkled E occupancies. Do it for the children!

Cost Impact: Increase

Estimated Immediate Cost Impact:

The average additional installed cost of constructing a 1 hr fire-resistance-rated gypsum board wall as compared to a non-rated gypsum board wall is approximately $1 to $2 / sq ft. The average additional installed cost of constructing a 1 hr fire-resistance-rated concrete masonry unit (CMU) wall as compared to a non-rated CMU wall is approximately $2 to $4 / sq ft. In addition to the additional cost of construction the wall, the various breaches will need to be likewise protected in accordance with Sections 714, 715, 716 and 717 of the International Building Code. Below is the average cost for installing this additional protection:

1. Based on industry and manufacturer input, the average cost of an installed firestop system is $50 to $60 per penetration.
2. Based on industry and manufacturer input, the average cost of an installed joint system is $25 to $40 per lineal foot.
3. Based on industry and manufacturer input, the average increase in cost of an installed 20 minute without hose stream door versus a non-rated door is $50 to $100 per door.
4. Based on industry and manufacturer input, the average increase in cost of an installed 20 or 45 minute fire-protection glazing versus a non-rated glazing is $25 to $40 per sq ft of opening.
5. Based on industry and manufacturer input, the average cost of an installed fire, smoke or combination fire/smoke damper is $300 to $500, $1,000 to $1,500 and $1,000 to $1,500 per damper, respectively.

Estimated Immediate Cost Impact Justification (methodology and variables):

This cost includes average materials and labor costs for the above items. The cost range includes protecting both sides of wall assembly where appropriate. In the end, the exact increase in cost is based on the specific building design in question.

E96-24

E97-24

IBC: SECTION 202 (New), SECTION 202, 1022.1, 1022.3 (New), 1023.3.1, 1022.3.2 (New), 1022.3.2.1 (New), 1022.3.2.2 (New), 1022.3.2.3 (New), 1008.3, 1024.5; IFC: SECTION 202 (New), SECTION 202, [BE] 1022.1, 1022.3 (New), [BE] 1023.3.1, 1022.3.2 (New), 1022.3.2.1 (New), 1022.3.2.2 (New), 1022.3.2.3 (New), [BE] 1008.3, [BE] 1024.5

Proponents: Jenifer Gilliland, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (jenifer.gilliland@seattle.gov); Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov); Angela Haupt, City of Kirkland, Washington Association of Building Officials, Technical Code Development Committee (ashaupt@kirklandwa.gov)

2024 International Building Code

Add new definition as follows:

EXIT PATHWAY.
An exit component that serves to meet one or more means of egress design requirements and is open to sky.

Revise as follows:

[BE] EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways* and *ramps*, *exit passageways*, *exit pathways*, *exterior exit stairways* and *ramps* and *horizontal exits*.

1022.1 General.
Exits shall comply with Sections 1022 through 1027 and the applicable requirements of Sections 1003 through 1015. An *exit* shall not be used for any purpose that interferes with its function as a *means of egress*. Once a given level of *exit* protection is achieved, such level of protection shall not be reduced until arrival at the *exit discharge.* ~~Exits shall be continuous from the point of entry into the *exit* to the *exit discharge*~~.

Add new text as follows:

1022.3 Exit continuity.
Exits shall be continuous from the point of entry into the *exit* to the *exit discharge*. The path within *exits* is permitted to consist of any combination of *interior exit stairways*, *interior exit ramps*, *exit passageways*, *exit pathways*, *exterior exit stairways*, and *exterior exit ramps*.

Revise as follows:

~~**1023.3.1**~~ **1022.3.1 Extension.** Where an *exit passageway* is used to provide continuity of an *exit*, ~~*interior exit stairways* and *ramps* are extended to an *exit discharge* or a *public way* by an *exit passageway*~~, the *interior* or exterior *exit stairway* and *ramp* shall be separated from the *exit passageway* by a *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both. The *fire-resistance rating* of the exit passageway shall be not less than that required for the *interior exit stairway* and *ramp*. A *fire door assembly* complying with Section 716 shall be installed in the *fire barrier* to provide a *means of egress* from the *interior* or exterior *exit stairway* and *ramp* to the *exit passageway*. Openings in the *fire barrier* other than the *fire door assembly* are prohibited. Penetrations of the *fire barrier* are prohibited.

Exceptions:

1. Penetrations of the *fire barrier* in accordance with Section 1023.5 shall be permitted.
2. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where there are no openings into the *exit passageway* extension.
3. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where the *interior exit stairway* and the *exit passageway* extension are pressurized in accordance with Section 909.20.4.

Add new text as follows:

1022.3.2 Exit pathways. *Exit pathways* shall be permitted to serve as an exit component in the *means of egress* system where they connect *interior* or *exterior exit stairways and ramps* of the same *building* and comply with the requirements in Section 1022.3.2.1 through 1022.3.2.3.

1022.3.2.1 Construction and openings. The floor, walls, and openings of the *exit pathway* shall be constructed in accordance with Section 1024 for *exit passageways* for a minimum horizontal distance of 10 feet from the edges of *exit pathway* and a minimum vertical distance of 10 feet from the floor of the *exit pathway*.

1022.3.2.2 Location. The *exit pathway* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *exit pathway*, to:

1. The closest interior *lot line*.
2. The centerline of a street, an alley, or *public way*.
3. An imaginary line between two *buildings* on the lot.

1022.3.2.3 Path marking. *Exit pathways* shall be delineated or marked to clearly indicate the path of travel.

Revise as follows:

1008.3 Illumination required by an emergency electrical system. An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
   1.1. *Aisles*.
   1.2. *Corridors*.
   1.3. *Exit access stairways* and *ramps*.
2. In *buildings* that require two or more exits or access to exits:
   2.1. Interior *exit access stairways* and *ramps*.
   2.2. Interior and *exterior exit stairways* and *ramps*.
   2.3 *Exit pathways*
   ~~2.3.~~ 2.4. Exit passageways.
   ~~2.4.~~ 2.5. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
   ~~2.5.~~ 2.6. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the *exit discharge*.
3. In other rooms and spaces:
   3.1. Electrical equipment rooms.
   3.2. *Fire command centers*.
   3.3. Fire pump rooms.
   3.4. Generator rooms.
   3.5. Public restrooms with an area greater than 300 square feet (27.87 m^2).

1024.5 Openings.
Exit passageway opening protectives shall be in accordance with the requirements of Section 716.
Except as permitted in Section 402.8.7, openings in exit passageways other than unprotected exterior openings shall be limited to those necessary for *exit access* to the *exit passageway* from normally occupied spaces and for egress from the *exit passageway*.

Where an *interior exit stairway* or *ramp* is extended to an *exit discharge* or a *public way* by an *exit passageway*, the *exit passageway* shall comply with Section ~~1023.3.1~~1022.3.1.

Elevators shall not open into an *exit passageway*.

2024 International Fire Code

Add new definition as follows:

EXIT PATHWAY. An exit component that serves to meet one or more means of egress design requirements and is open to sky.

Revise as follows:

[BE] EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways* and *ramps*, *exit passageways*, exit pathways, *exterior exit stairways* and *ramps* and *horizontal exits*.

[BE] 1022.1 General.
Exits shall comply with Sections 1022 through 1027 and the applicable requirements of Sections 1003 through 1015. An *exit* shall not be used for any purpose that interferes with its function as a *means of egress*. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the *exit discharge*. ~~*Exits* shall be continuous from the point of entry into the *exit* to the *exit discharge*.~~

Add new text as follows:

1022.3 Exit continuity. Exits shall be continuous from the point of entry into the *exit* to the *exit discharge*. The path within *exits* is permitted to consist of any combination of *interior exit stairways*, *interior exit ramps*, *exit passageways*, *exit pathways*, *exterior exit stairways*, and *exterior exit ramps*.

Revise as follows:

[BE] ~~1023.3.1~~ 1022.3.1 Extension.
Where an *exit passageway* is used to provide continuity of an *exit*, ~~*interior exit stairways* and *ramps* are extended to an *exit discharge* or a *public way* by an *exit passageway*,~~ the *interior* or exterior *exit stairway* and *ramp* shall be separated from the *exit passageway* by a *fire barrier* constructed in accordance with Section 707 of the International Building Code or a *horizontal assembly* constructed in accordance with Section 711 of the International Building Code, or both. The *fire-resistance rating* of the exit passageway shall be not less than that required for the *interior exit stairway* and *ramp*. A *fire door assembly* complying with Section 716 of the International Building Code shall be installed in the *fire barrier* to provide a *means of egress* from the *interior* or exterior *exit stairway* and *ramp* to the *exit passageway*. Openings in the *fire barrier* other than the *fire door assembly* are prohibited. Penetrations of the *fire barrier* are prohibited.

Exceptions:

1. Penetrations of the *fire barrier* in accordance with Section 1023.5 shall be permitted.
2. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where there are no openings into the *exit passageway* extension.
3. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where the *interior exit stairway* and the *exit passageway* extension are pressurized in accordance with Section 909.20.4 of the International Building Code.

Add new text as follows:

1022.3.2 Exit pathways. *Exit pathways* shall be permitted to serve as an exit component in the *means of egress* system where they connect *interior* or *exterior exit stairways and ramps* of the same *building* and comply with the requirements in Section 1022.3.2.1 through 1022.3.2.3.

1022.3.2.1 Construction and openings.
The floor, walls, and openings of the *exit pathway* shall be constructed in accordance with Section 1024 for *exit passageways* for a minimum horizontal distance of 10 feet from the edges of *exit pathway* and a minimum vertical distance of 10 feet from the floor of the *exit pathway*.

1022.3.2.2 Location. The exit pathway shall have a minimum fire separation distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the exit pathway, to:

1. The closest interior lot line.
2. The centerline of a street, an alley, or public way.
3. An imaginary line between two buildings on the lot.

1022.3.2.3 Path marking. *Exit pathways* shall be delineated or marked to clearly indicate the path of travel.

Revise as follows:

[BE] 1008.3 Illumination required by an emergency electrical system.
An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
   1.1. *Aisles*.
   1.2. *Corridors*.
   1.3. *Exit access stairways* and *ramps*.
2. In *buildings* that require two or more exits or access to exits:
   2.1. Interior *exit access stairways* and *ramps*.
   2.2. Interior and *exterior exit stairways* and *ramps*.
   2.3 Exit pathways
   ~~2.3.~~ 2.4. Exit passageways.
   ~~2.4.~~ 2.5. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
   ~~2.5.~~ 2.6. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the *exit discharge*.
3. In other rooms and spaces:
   3.1. Electrical equipment rooms.
   3.2. *Fire command centers*.
   3.3. Fire pump rooms.
   3.4. Generator rooms.
   3.5. Public restrooms with an area greater than 300 square feet (27.87 m^2).

[BE] 1024.5 Openings. *Exit passageway* opening protectives shall be in accordance with the requirements of Section 716 of the

International Building Code.
Except as permitted in Section 402.8.7 of the International Building Code, openings in *exit passageways* other than unprotected exterior openings shall be limited to those necessary for *exit access* to the *exit passageway* from normally occupied spaces and for egress from the *exit passageway*.

Where an *interior exit stairway* or *ramp* is extended to an *exit discharge* or a *public way* by an *exit passageway*, the *exit passageway* shall comply with Section ~~1023.3.1~~1022.3.1.

Elevators shall not open into an *exit passageway*.

Reason: The design of new buildings on small complex sites with steep or varying grades can result in buildings with multiple levels and entrances, towers of differing heights, parking garages that are partially underground with large roof decks near grade, etc. Complying with *means of egress* requirements can be difficult and some applicants propose using outdoor spaces such as roofs or roof decks as part of an *exit* or to connect *exit* components. There is no obvious code path allowing a surface like a roof or deck that is open to sky to be used to connect exit components without requiring it to be enclosed with an *exit passageway*, which is cost prohibitive.

Proposed Solution: Exit Pathway

This proposal combines *exit* continuity language from other Chapter 10 locations into Section 1022 Exits and adds new sections and definitions to establish a new option for connecting *exit* components, the *exit pathway.* The *exit pathway* has two attributes: it must be open to sky and is an *exit* component. An *exit pathway* is a delineated route that crosses a space that is open to sky and connects *exit* components, in a similar manner to how an *exit passageway* connects two *interior exit stairways* within a building (see Figure 1 below).

The purpose of the changes in each section is as follows:

1022.1 General. The last sentence, "*Exits* shall be continuous from the point of entry into the *exit* to the *exit discharge,*" is being relocated to section 1022.3 to create a new section, Exit continuity.

1022.3 Exit continuity. This section addresses two important aspects of an *exit*: they must be continuous from beginning to end and an exit can be a combination of several different *exit* components, including the new *exit pathway*.

This proposal also adds *exterior exit stairways and ramps* to the list of exit components that can be daisy-chained together to form the egress path to the exit discharge or public way. Using Figure 1 as an example, if the delineated *exit pathway* crosses the podium of a podium building, in many designs, an *exterior exit stairway* (minus the stair penthouse shown in the figure) is used to get from the podium level to the public way. The language in the current code (1023.3, Exception) would not allow this, yet the level of safety of an *exterior exit stairway* is presumed to be the same as the other *exit* components.

1022.3.1 Extension. The *exit passageway* extension requirement used to separate the *interior or exterior exit stairway and ramp* from the *exit passageway* is being relocated from Section 102**3**.3.1 into Section 102**2**.3.1. *Exit* continuity needs to be maintained through all components of an *exit*, not just *interior exit stairways* and ramps, so the relocation to Section 1022, the general exiting section, is more appropriate.

1022.3.2 *Exit pathways*: Adds scoping language for the new *exit pathway section.*

1022.3.2.1 Construction and openings: The floors and walls of the *exit pathway* would be protected like an *exit passageway,* but there would be no ceiling that needs protection. The exit pathway is protected from fires below by requiring the horizontal assembly required in 1024.3 to extend 10 feet from the edge of the pathway. Where there is a minimum of 10 feet of horizontal separation between the edge of the *exit pathway* and other parts of the building, then no walls would be required. However, where *building* walls are less than 10 feet from the edge of *exit pathway*, they must be protected for a vertical distance of 10 feet (see Figure 2 below).

1022.3.2.2 Location: The hazard of adjacent buildings is mitigated with a requirement to have 10 feet of *fire separation distance* between the edge of the *exit pathway* and the lot line, centerline of the right-of-way, or an imaginary lot line, which is similar to how Section 1027.5 protects exterior stairs.

1022.3.2.3 Path marking: Marking the *exit pathway* is required. It can be disorienting to leave an exit stairway or other area and suddenly find yourself in an open to sky area that isn't at grade. Providing a visual cue for the *exit pathway* will allow people to get to the other exit component efficiently in the event of an emergency.

1008.3 Illumination required by an emergency electrical system: To coordinate with the change requiring illumination made in 1002.3.2.4, *exit pathways* is added as item 2.3, requiring the emergency electrical system to automatically illuminate the pathway if there

is a power failure. Ambient lighting is not an effective substitute for artificial lighting especially in dense urban environments. Areas like podium plazas, may get little ambient light because of shadows from neighboring buildings and the top floor of many high-rise buildings are stepped back and of a such height that no other building is nearby that can provide the ambient light necessary to light the *exit pathway*. In recognition of the limitations of ambient lighting, the code hasn't relied on the use of ambient lighting to light the exit discharge since the 2018 IBC.

1024.5 Openings: The reference to 102**3**.3.1 is being changed to 102**2**.3.1 to reflect the relocation of the extension section for *exit passageway*s in 1023 to 1022.3.1. See comments on 1022.3.1.

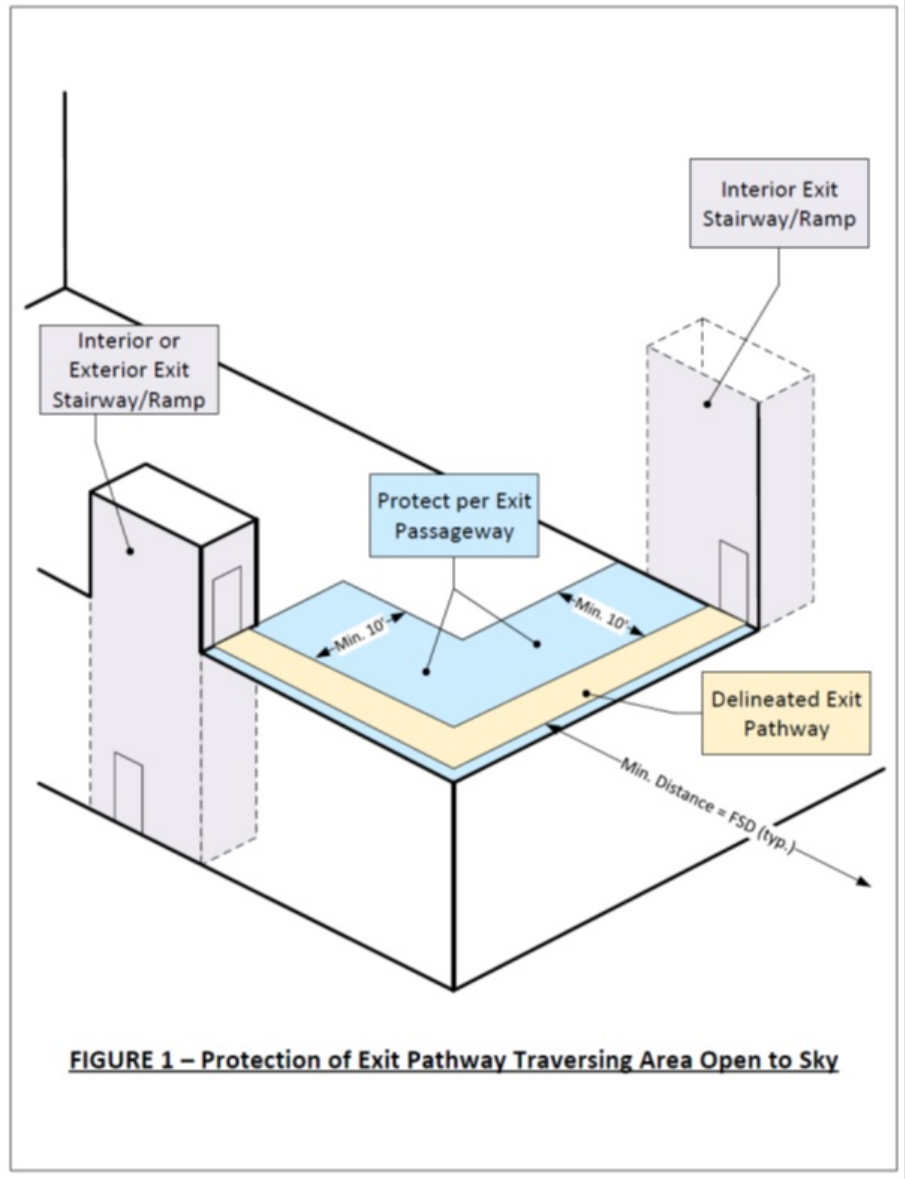


FIGURE 1 – Protection of Exit Pathway Traversing Area Open to Sky

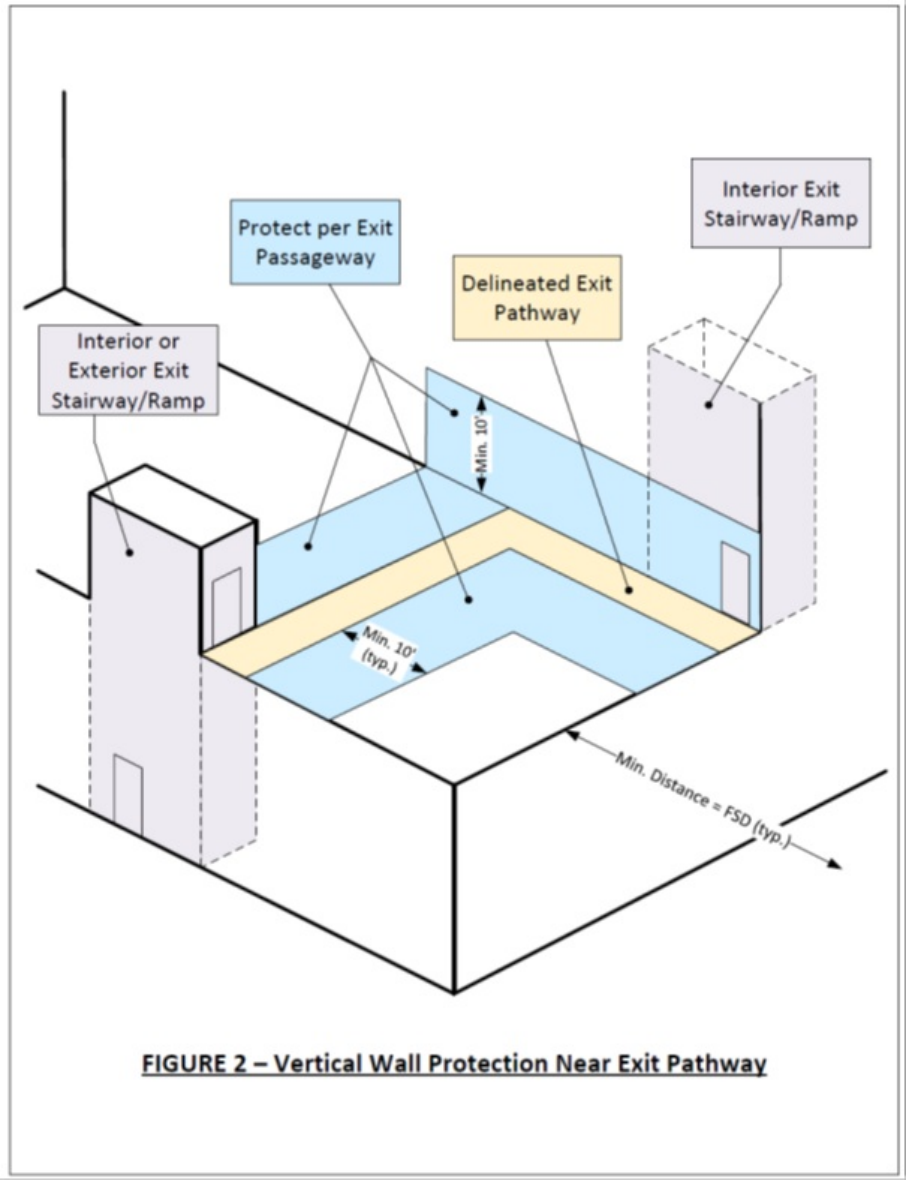


FIGURE 2 – Vertical Wall Protection Near Exit Pathway

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Much depends on what the applicant proposes and what the building official will approve for delineating or marking the exit pathway. Barriers and guards could make sense depending on if amenities are provided on the roof or other outdoor surface. It is more likely that striping and paint will be used. The exit pathway may need to be redone or touched up in the future. A cursory review of online prices for traffic striping paint and pavement marking tape revealed the following:

Paint

HD Supply Solutions: $70.39 to $199.00 per gallon HD Supply Solutions

Pavement marking tape (retroreflective polymer pavement marking tape)

(yellow) 3M Stamark 24"x30 yard: $320 Uline; $416.78 Stop-Painting.com

3M Stamark Surface Preparation Adhesive P50, 1 gallon: $85.07 Industrial General Store

An analysis of the cost of luminous of egress path markings, such as those required by Section 1025, is not included as they are generally not designed for outdoor use.

Estimated Immediate Cost Impact Justification (methodology and variables):

This change provides a new option to use an exit pathway across a roof to connect two exit components and an exterior exit stairway or ramp to be used as one of the connected components. It is not creating a new requirement, so there is no cost impact or most likely a decrease in cost.

Currently, the only way an outdoor portion of a building like a roof or roof deck can be used as part of the *exit* would be to put enclose that portion of the roof in an exit passageway. Exit passageways are required to have fire resistance rated construction on the floor, ceiling and walls for the entire length of the exit passageway. With this change, at a minimum, someone opting to use the exit pathway approach where other portions of the surface are within 10 feet of the pathway or where the pathway is within a fire separation distance of 10 feet would not need to rate its ceiling while still rating its walls and floor. This is a cost reduction because they don't need to rate the of the ceiling of what would normally be required, an exit passageway. In cases where the exit pathway is more than 10 feet away from other items on the roof and adjacent buildings, only the floor of would need to be rated. Again, this represents a cost reduction from full compliance with the requirements of an exit passageway. In addition, many podium buildings have roofs and other outdoor surfaces that may already be appropriately fire resistance rated due to other code requirements and nothing would need to be required other than marking and lighting the path. This is also a cost reduction from full compliance with an exit passageway. Exit passageways are required to be provided with lighting and markings, so the minimal lighting and path marking requirements for the exit pathways would certainly cost the same or possibly less.

There could be costs associated with maintaining the exit pathway markings over time, depending on the material or product approved by the building official.

The lighting would not present increased costs over lighting already required in an exit pathway.

E97-24

E98-24

IBC: 1023.2; IFC: [BE] 1023.2

Proponents: Ali Fattah, City of San Diego Development Services Department, San Diego Area Chapter of ICC (afattah@sandiego.gov)

2024 International Building Code

Revise as follows:

1023.1 General.
Interior exit stairways and *ramps* serving as an exit component in a *means of egress* system shall comply with the requirements of this section. *Interior exit stairways* and *ramps* shall be enclosed and lead directly to the exterior of the *building* or shall be extended to the exterior of the *building* with an *exit passageway* conforming to the requirements of Section 1024, except as permitted in Section 1028.2. An *interior exit stairway* or *ramp* shall not be used for any purpose other than as a *means of egress* and a *circulation path*.

1023.2 Construction.
Enclosures for interior exit *stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. *Interior exit stairway* and *ramp* enclosures shall have a *fire-resistance rating* of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of *stories* connected by the interior exit *stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. Enclosures for interior *exit stairways* and *ramps* shall have a *fire-resistance rating* not less than the floor assembly penetrated, but need not exceed 2 hours.

Exceptions:

1. *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.
2. *Interior exit stairways* within an *atrium* enclosed in accordance with Section 404.6.
3. *Interior exit stairways* in accordance with Section 510.2.
4. Interior exit stairway within and serving individual units in Group R-3 occupancies and not connecting more than 4 stories are not required to enclosed.
5. Interior exit stairway in Group R-3 occupancies, where the interior exit stairway does not serve more than one dwelling unit and where the interior exit stairway does not connect more than 3 stories, are not required to enclosed within the unit it serves.

2024 International Fire Code

[BE] 1023.1 General.
Interior exit stairways and *ramps* serving as an *exit* component in a *means of egress* system shall comply with the requirements of this section. *Interior exit stairways* and *ramps* shall be enclosed and lead directly to the exterior of the building or shall be extended to the exterior of the building with an *exit passageway* conforming to the requirements of Section 1024, except as permitted in Section 1028.2. An *interior exit stairway* or *ramp* shall not be used for any purpose other than as a *means of egress* and a circulation path.

Revise as follows:

[BE] 1023.2 Construction.
Enclosures for *interior exit stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 of the International Building Code or *horizontal assemblies* constructed in accordance with Section 711 of the International Building Code, or both. *Interior exit stairway* and *ramp* enclosures shall have a *fire-resistance rating* of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the *interior exit stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. Enclosure for *interior exit stairways* and *ramps* shall have a *fire-resistance rating* not less than the floor assembly penetrated, but need not exceed 2 hours.

Exceptions:

1. *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.
2. *Interior exit stairways* within an *atrium* enclosed in accordance with Section 404.6.
3. *Interior exit stairways* in accordance with Section 510.2.
4. Interior exit stairway within and serving individual dwelling units in Group R-3 occupancies and not connecting more than 4 stories are not required to enclosed.
5. Interior exit stairway in Group R-3 occupancies, where the interior exit stairway does not serve more than one dwelling unit and where the interior exit stairway does not connect more than 3 stories, are not required to enclosed within the unit it serves.

Reason: The proposed code change is necessary to address a regulatory gap in the IBC. Group R-3 occupancies are scoped out of the IRC when the number of stories exceeds 3 stories and when the means of egress is shared by dwelling units and as a consequence, and when scoped out they, R-3 occupancies would follow a compliance path offered by the IBC.

The IBC regulates three types of stairways: Exit Access stairways per Section 1019, Interior Exit stairways per Section 1023 and Exterior exit stairways per Section 1027. The IBC does not clearly address two unique cases that have arisen recently, one case is a 6 story R-3 dwelling with a single dwelling unit and a second case is a 3 story 2-unit R-3 occupancy with a Group U private Garage on the first story. Do interior stairways serving these two building types need to be enclosed with fire barriers and designed to comply as interior exit stairways is the primary question. This code change seeks to make code revisions to say yes in essence by exempting cases that are not those two.

- Section 1006.3.4 item 4 permits a single exit in an R-3 occupancy.
- Section 1017.2 permits a travel distance of 125 in an R-3 protected with a sprinkler system per Section 903.3.1.1.
- Section 1019.3 exempts exit access stairs within individual dwelling units in Group R-3 connecting 4 stories from being protected with an enclosure.
- Section 1023.2 does not address Group R-3 since Section 1019.3 does not require an enclosure.
- Section 1023.7 exempts exterior exit stairways in exception 4 from protection when serving individual dwelling units in Group R-3 in a Group R-3 not more than 4 stories. This can be interpreted to mean that dwelling units do not share a stair.

The proposed Code change adds two new exceptions to Section 1023.2 to not require an enclosure with a fire barrier for an interior exit stairway connecting not more than 4 stories and a second exception that addresses the case of a multi-story R-3 where the means of egress stair is not shared for example a first story unit discharges directly to grade and a second story unit uses a stairway. While it may appear to be inconsistent that exception 5 sets the limit at 3 stories, the limit is consistent with the philosophy in Section 712 when a shaft is not within a dwelling unit. Exterior stairways, while regulated in similar fashion to interior exit stairways, are different than interior exit stairways in that they do not trap smoke. This code change can be considered an editorial clarification for the IBC to be more direct rather than arriving at the requirement through inference.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change is a clarification since single exit buildings may or may not require an interior exit stairway in a 3-story building and exit access stairways are limited by travel distance. The IBC did not envision one of the unique configurations being addressed in this code change.

The proposed code change will require a fire barrier that may be 1- or 2-hour fire resistance rated and 1 hour or 90-minute doors. a 2-hour fire barrier will cost $10,800 per story assuming $300 per lineal foot and 36 ft per story. Doors will cost $1,500 each. So, if a cost estimate is required the increased cost can be approximately $12,300 per story. However, it should be stated that in all cases the common stair will include doors and walls so the cost increase will be minimal and the 6-story house if permitted to be protected as an exit access stairway would be the same.

As a result in reality the increase in the cost of construction should be minimal.

E98-24

E99-24

IBC: 1024.3; IFC: [BE] 1024.3

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1024.3 Construction.
Exit passageway enclosures shall have walls, floors and ceilings of not less than a 1-hour *fire-resistance rating.* The fire-resistance rating of an exit passageway, where extending from an interior exit stairway or ramp, shall not be less than that required for the ~~, and not less than that required for any connecting~~ *interior exit stairway* or *ramp*. Exit passageways shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both.

2024 International Fire Code

Revise as follows:

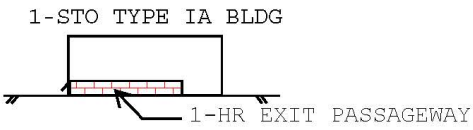
[BE] 1024.3 Construction.
Exit passageway enclosures shall have walls, floors and ceilings of not less than a 1-hour *fire-resistance rating.* The fire-resistance rating of an exit passageway, where extending from an interior exit stairway or ramp, shall not be less than that required for the ~~, and not less than that required for any connecting~~ *interior exit stairway* or *ramp*. Exit passageways shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both.

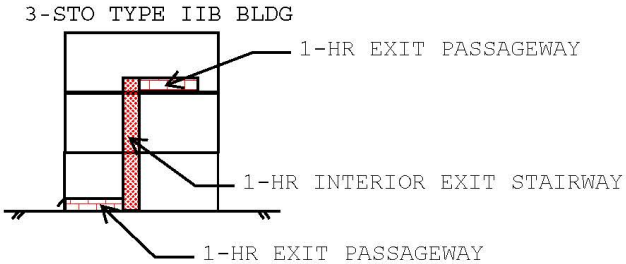
Reason: It is clearly the intent of the Code that an exit passageway, whether required for travel distance or some other reason, may be of minimum one-hour fire-resistance rating, regardless of the type of construction or number of stories in a building. There are many times that this is misinterpreted that if you are located in a Type I building, or several stories up in a structure, that the exit passageway must be two-hour rated.

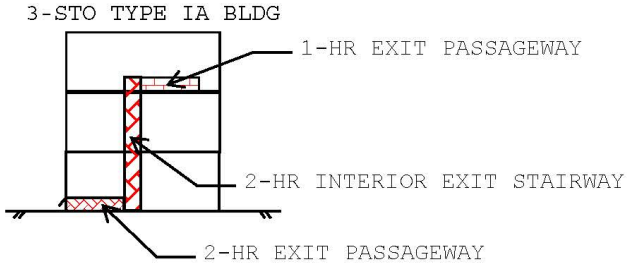
The Code Commentary already states that “Where extending an enclosure for an exit stairway, the rating must not be less than the enclosure for the exit stairway so that the degree of protection is kept at the same level.” This proposal is intended to clarify these code provisions.

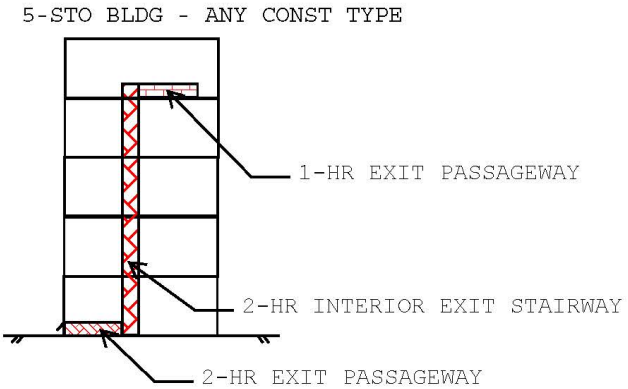
This is a similar proposal as E98-21 which was Approved as Submitted during the Public Comment Hearings, but was ultimately disapproved during the OGCV. To further clarify the intention of this proposal, exhibit schematics have been included with this submission. These examples illustrate this language as follows:

- One-story Type IA building - an exit passageway is required to be a minimum of 1-hour fire-resistance construction, regardless that the building has a required structural fire-resistance greater than 1-hour.
- Three-story Type IIB building - the exit passageway on Level 3 is required to be a minimum of 1-hour fire-resistance construction. The interior exit stairway is required to be of minimum 1-hour fire-resistance construction, and any exit passageways that extend from the stairway are to be of minimum 1-hour fire-resistance construction.
- Three-story Type IA building - the exit passageway on Level 3 is required to be a minimum of 1-hour fire-resistance construction. The interior exit stairway is required to be of minimum 2-hour fire-resistance construction (due to the penetrated 2-hour floor assemblies), and any exit passageways that extend from the stairway are to be of minimum 2-hour fire-resistance construction.
- Five-story building of any construction type - the exit passageway on Level 5 is required to be a minimum of 1-hour fire-resistance construction. The interior exit stairway is required to be of minimum 2-hour fire-resistance construction, and any exit passageways that extend from the stairway are to be of minimum 2-hour fire-resistance construction.









Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed text clarifies the existing intent for the rating of exit passageway.

E99-24

E100-24

IBC: 1026.2; IFC: [BE] 1026.2

Proponents: Jeff Perras, Code Red Consultants, LLC, Code Red Consultants, LLC (jeffp@crcfire.com)

2024 International Building Code

Revise as follows:

1026.2 Separation.
The separation between buildings or refuge areas connected by a *horizontal exit* shall be provided by a *fire wall* complying with Section 706; or by a *fire barrier* complying with Section 707 or a *horizontal assembly* complying with Section 711, or both. The minimum *fire-resistance rating* of the separation shall be 2 hours. Opening protectives in horizontal *exits* shall also comply with Section 716. Duct and air transfer openings in a *fire wall* or *fire barrier* that serves as a *horizontal exit* shall also comply with Section 717. The *horizontal exit* separation shall extend vertically through all levels of the building unless floor assemblies have a *fire-resistance rating* of not less than 2 hours and do not have unprotected openings.

~~**Exception**~~ **Exceptions:**

1. A *fire-resistance rating* is not required at horizontal *exits* between a *building* area and an above-grade *pedestrian walkway* constructed in accordance with Section 3104, provided that the distance between connected buildings is more than 20 feet (6096 mm).
2. No separation is required between portions of an occupiable roof, provided the entire roof has a fire resistance rating of not less than 2 hours.

Horizontal exits constructed as *fire barriers* shall be continuous from *exterior wall* to *exterior wall* so as to divide completely the floor served by the *horizontal exit*.

2024 International Fire Code

Revise as follows:

[BE] 1026.2 Separation.
The separation between buildings or refuge areas connected by a *horizontal exit* shall be provided by a *fire wall* complying with Section 706 of the International Building Code; or by a *fire barrier* complying with Section 707 of the International Building Code or a *horizontal assembly* complying with Section 711 of the International Building Code, or both. The minimum *fire-resistance rating* of the separation shall be 2 hours. Opening protectives in *horizontal exits* shall also comply with Section 716 of the International Building Code. Duct and air transfer openings in a *fire wall* or *fire barrier* that serves as a *horizontal exit* shall also comply with Section 717 of the International Building Code. The *horizontal exit* separation shall extend vertically through all levels of the building unless floor assemblies have a *fire-resistance rating* of not less than 2 hours and do not have unprotected openings.

~~**Exception**~~ **Exceptions:**

1. A *fire-resistance rating* is not required at horizontal *exits* between a *building* area and an above-grade *pedestrian walkway* constructed in accordance with Section 3104, provided that the distance between connected buildings is more than 20 feet (6096 mm).
2. No separation is required between portions of an occupiable roof, provided the entire roof has a fire resistance rating of not less than 2 hours.

Horizontal exits constructed as *fire barriers* shall be continuous from *exterior wall* to *exterior wall* so as to divide completely the floor served by the *horizontal exit*.

Reason: There is currently no code perscribed way to utilize a horizontal exit on an occupied roof deck. Designers are required to introduce additional exit stairs or limit the use of these areas to have compliant egress. Occupied roof decks are uniquely different than enclosed interior space with respect to smoke and fire spread, making the rated wall separation unneccesary.

This proposal seeks to eliminate the need for the rated wall assembly on an occupied roof provided the roof of the building is minimally 2

hour fire resistance rated. This rating exceeds the minimum roof rating required by all construction types. The rating also aligns with the rating required by 1026.2 when a horizontal exit does not extend vertically through all levels of the building.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Under the current code, additional exit stairs would be required. With the proposed change the additional stairs could be eliminated but the roof would require a higher rating. Given this is a cost trade off, the proposal would have no impact on the cost of construction.

E100-24

E101-24

IBC: 1026.6 (New); IFC: 1026.6 (New)

Proponents: Joseph Cervantes, Space Age Electronics (joseph.cervantes@1sae.com)

2024 International Building Code

Add new text as follows:

1026.6 Two-way communication. Where a refuge area does not contain a two-way communication system at an elevator landing or within an area of refuge, a two-way communications system shall be installed in an approved location in a public area and shall comply with Sections 1009.8.1, 1009.8.2 and 1009.11.

Exception: Two-way communication systems are not required in Group I-2 and I-3 facilities.

2024 International Fire Code

Add new text as follows:

1026.6 Two-way communication. Where a refuge area does not contain a two-way communication system at an elevator landing or within an area of refuge, a two-way communications system shall be installed in an approved location in a public area and shall comply with Sections 1009.8.1, 1009.8.2 and 1009.11.

Exception: Two-way communication systems are not required in Group I-2 and I-3 facilities.

Reason: This proposal seeks to amend the existing standards by specifying that two-way communication systems must be installed in all horizontal exit compartments. A "horizontal exit" is defined as a passageway leading either to a refuge area in another building at a similar level or through a fire barrier to a refuge area within the same building, providing protection from fire and smoke.

Current codes (1009.3, 1009.8) mandate the installation of these communication systems in elevator landings, areas of refuge (1009.6.5), and locked stairways in high-rise buildings (403.5.3.1). However, in situations where a fire breaks out near an elevator landing, individuals with disabilities or physical limitations who are unable to evacuate and seek shelter in a horizontal exit may find themselves cut off from communication with a constantly attended station or a central station, especially if the system is designed to call directly offsite.

In recognition of this critical safety gap, some jurisdictions in California have already mandated the installation of two-way communication systems in every horizontal exit compartment. This proposal aims to standardize this safety measure across all jurisdictions to ensure consistent protection for individuals who may find themselves in such vulnerable situations during a fire emergency.

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6. https://www.coffman.com/news/horizontal-exits-for-means-of-egress-systems-part-one/
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Cost Impact: Increase

Estimated Immediate Cost Impact:

For New Buildings:
Cost of Two-Way Communication Systems: Approx. $500 per unit.
Installation and Wiring Costs:
2-Hour Fire Resistive Rated Building: Use of circuit integrity cable, which is more expensive. Let's estimate $300-$400 per unit for the cable, plus installation.
1-Hour Fire Resistive Rated Building: Standard twisted pair, non-shielded cable in a mechanically protected raceway. This might cost around $100-$200 per unit, including the raceway.
Labor for Wiring, Programming, Testing, and Commissioning: Assuming a labor rate of $50 per hour, and an estimated 4 hours of work per unit, that's an additional $200.

Total Estimated Cost per Unit for New Buildings:

2-Hour Building: $1,000-$1,100
1-Hour Building: $800-$900

For Existing Buildings:
Cost of Two-Way Communication Systems: Approx. $500 per unit.
Installation and Wiring Costs:
2-Hour Building: Circuit integrity cable costs, plus more complex installation due to retrofitting, estimated at $400-$500.
1-Hour Building: Standard cable in a protected raceway, estimated at $200-$300, considering retrofitting complexities.
Retrofitting Costs: Estimated $500-$1,000 per unit for structural modifications and integration.
Labor for Wiring, Programming, Testing, and Commissioning: Same as new buildings, an additional $200.
Total Estimated Cost per Unit for Existing Buildings:

2-Hour Building: $1,600-$2,200
1-Hour Building: $1,400-$2,000

Summary:
New Buildings: Costs range from $800-$1,100 per unit, depending on the fire resistive rating of the building.
Existing Buildings: Higher costs due to retrofitting, ranging from $1,400-$2,200 per unit.
These figures are estimates and should be used as a general guide. The actual costs will depend on specific building requirements, local labor rates, and market prices for materials.

Estimated Immediate Cost Impact Justification (methodology and variables):

Methodology:
Research and Market Analysis:

Gathered average market prices for two-way communication systems.
Sourced data on the costs of circuit integrity cable for buildings with a 2-hour fire resistive rating and standard cable in mechanically protected raceway for buildings with a 1-hour rating.
Collected information on average labor rates for installation, wiring, programming, testing, and commissioning.
Calculation of Costs:

Calculated material costs based on the required type of wiring for different fire resistive rated buildings.
Estimated labor hours needed for installation, including additional work for retrofitting existing buildings.
Incorporated a buffer in cost estimations to account for variations in market rates and unforeseen installation complexities.

Variables:
Type of Building (New vs. Existing):

New buildings generally incur lower installation costs due to easier accessibility and integration during the construction phase.
Existing buildings typically require additional structural modifications, leading to higher retrofitting costs.
Fire Resistive Rating of the Building:

2-hour fire resistive rated buildings require more expensive circuit integrity cable.
1-hour rated buildings can use standard cable, which is less expensive but requires mechanical protection.
Labor Rates:

The cost of labor can vary significantly based on geographical location, the expertise of the technicians, and market demand.
Size and Complexity of Installation:

Larger buildings or those with complex layouts may require more extensive wiring and more labor hours, increasing costs.
Material Costs:

Prices for two-way communication systems and wiring materials can fluctuate based on supplier, technological advancements, and market demand.

E102-24

IBC: 1027.2; IFC: [BE] 1027.2

Proponents: David Renn, PE, SE, City and County of Denver, Colorado Chapter Code Development Committee (david.renn@denvergov.org)

2024 International Building Code

Revise as follows:

1027.2 Use in a means of egress. *Exterior exit stairways* shall not be used as an element of a required *means of egress* for Group I-2 occupancies. For occupancies in other than Group I-2, *exterior exit stairways* and *ramps* shall not be used as an element of a required *means of egress* where serving any of the following: ~~for *buildings* exceeding six *stories above grade plane* or that are *high-rise buildings*~~.

1. An occupied floor or *occupiable roof* located above the sixth *story above grade plane.*
2. An occupied floor or *occupiable roof* located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

2024 International Fire Code

Revise as follows:

[BE] 1027.2 Use in a means of egress. *Exterior exit stairways* shall not be used as an element of a required *means of egress* for Group I-2 occupancies. For occupancies in other than Group I-2, *exterior exit stairways* and *ramps* shall not be used as an element of a required *means of egress* where serving any of the following: ~~for *buildings* exceeding six *stories above grade plane* or that are *high-rise buildings*~~.

1. An occupied floor or *occupiable roof* located above the sixth *story above grade plane.*
2. An occupied floor or *occupiable roof* located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Reason: Section 1027.2 currently limits the use of exterior exit stairways and ramps based on the height of the building (exceeding six stories above grade plane or a high-rise building). The commentary indicates that this limitation is due to the hazard of using a taller stairway in poor weather and due to some persons not being willing to use such a stairway or ramp due to vertigo (i.e., becoming confused, disoriented, or dizzy at great heights). These reasons are due to the height of the stairway or ramp, not the height of the building. This proposal revises this section to limit exterior exit stairways and ramps based on the height of the floor or occupied roof that they serve (based on number of stories, or high-rise limitation as currently in this section), which aligns with the reasons for this limitation.

This change will allow tall buildings (exceeding six stories or a high rise) to have an exterior exit stairway or ramp that only serves floors or occupied roofs below the current building height limits. For example, a high-rise residential building often has a lower level with spaces such as exterior pool and amenity decks/rooms - these spaces are high occupant load spaces that often will require the story/occupied roof to have 3 exits, instead of 2, and an exterior exit stairway is often a good choice for this third exit since it is only needed on this level. The currently language would not allow this since the building is a high rise, while this proposal would since the stair serves a floor/occupied roof that is less than a high rise. This change is in line with the current intent and purpose of this section.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal aligns the wording in this section with the intent of the section indicated in the commentary, so there should be no cost impact.

E103-24

IBC: 1027.2; IFC: [BE] 1027.2

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1027.2 Use in a means of egress. *Exterior exit stairways* shall not be used as an element of a required *means of egress* for Group I-2 occupancies. For occupancies in other than Group I-2, *exterior exit stairways* and *ramps* shall not be used as an element of a required *means of egress* where the highest walking surface of the exterior exit stairway or ramp exceeds 75-feet above the lowest finished grade below the stairway. ~~for *buildings* exceeding six *stories above grade plane* or that are *high-rise buildings*~~.

2024 International Fire Code

Revise as follows:

[BE] 1027.2 Use in a means of egress. *Exterior exit stairways* shall not be used as an element of a required *means of egress* for Group I-2 occupancies. For occupancies in other than Group I-2, *exterior exit stairways* and *ramps* shall not be used as an element of a required *means of egress* where the highest walking surface of the exterior exit stairway or ramp exceeds 75-feet above the lowest finished grade below the stairway. ~~for *buildings* exceeding six *stories above grade plane* or that are *high-rise buildings*~~.

Reason: This change will clarify the intent of Section 1027.2 as identified in the Code Commentary:

“Exterior exit stairways or ramps are not allowed to be required exits in buildings that exceed six stories in height because of the hazard of using such a stairway or ramp in poor weather. Some persons may not be willing to use such a stairway due to vertigo. When confronted with a view from a great height, vertigo sufferers can become confused, disoriented, and dizzy. They could injure themselves, become disoriented, or refuse to move (freeze). In a fire situation, they could become an obstruction in the path of travel, possibly causing panic and injuries to other users of the exit.”

The proposed change more effectively captures this intent by:

- Measuring the maximum height by unit distance rather than by number of stories, which can vary in height by building;
- Eliminating the reference to high-rise buildings, which similarly does not necessarily reflect the height of the stairway and resultant risk of vertigo;
- Removing the ambiguity of the “or” statement in the last sentence – as currently written, an exterior exit stairway in a 6-story high-rise building could be interpreted as permitted or not permitted.
- Specifically addressing the height of the stairway in question rather than the entire building – as currently written, a small exterior exit stairway serving just two stories in a large high-rise building could be interpreted as not permitted, even though this is not the intent of the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed text clarifies the existing intent for the maximum height of exterior stairways and ramps by providing a consistent elevation for application, quantified as a unit of distance rather than number of stories. The proposed maximum of 75 feet is approximately the highest height you would have in a typical six-story building and is also consistent with the code-recognized threshold for high-rise buildings. Measuring the 75 feet from the lowest local finished grade below the stair is consistent with the high-rise building height measurement, which is from the lowest level of fire department vehicle access serving the building.

E104-24

IBC: 1027.3; IFC: [BE] 1027.3

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1027.3 Open side. *Exterior exit stairways* and *ramps* serving as an element of a required *means of egress* shall ~~be open on~~ have not less than one side~~, except for required structural columns, beams, *handrails* and *guards*. An open side shall have~~ with not less than 35 square feet (3.3 m^2) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

2024 International Fire Code

Revise as follows:

[BE] 1027.3 Open side. *Exterior exit stairways* and *ramps* serving as an element of a required *means of egress* shall ~~be open on~~ have not less than one side~~, except for required structural columns, beams, *handrails* and *guards*. An open side shall have~~ with not less than 35 square feet (3.3 m^2) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

Reason: This change will clarify the intent of Section 1027.3 as identified in the Code Commentary:

“An important factor in exterior exit stairways or ramps is natural ventilation. Sufficient natural ventilation is necessary so that smoke will not be trapped above the stairway or ramp walking surfaces, thereby compromising safe egress.”

The proposed change more effectively captures this intent by removing the language restricting permissible features on the “open side” to only required structural columns, beams, handrails, and guards. So long as the required 35 square feet of aggregate open area is provided at each required level, the presence of additional architectural features on the open side would not prevent the stair from achieving the code-intended level of natural ventilation.

The Code Commentary discusses at length the need for open square footage on the open side. The final paragraph of the Code Commentary for Section 1027.3 even provides an example calculation of open area for a typical exterior exit stair configuration. Nowhere in the Code Commentary are specific features such as columns, beams, handrails, and guards discussed relative to their impact on natural ventilation. By every indication, these features have been specifically called out in Section 1027.3 not because they hinder natural ventilation to a lesser extent than other design features, but rather simply because they are features commonly found on the open side of an exterior exit stairway.

Removing this language from Section 1027.3 will provide more flexibility to building design without increasing the risk to life safety or property.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed text clarifies the existing intent for the natural ventilation achieved by an exterior exit stairway or ramp to be evaluated based on a measurement of aggregate open area on the required open side, without regard for which other elements are present on that open side.

E105-24

IBC: 1027.5; IFC: [BE] 1027.5

Proponents: Angela Haupt, City of Kirkland Washington, Washington Association of Building Officials, Technical code Development Committee (ashaupt@kirklandwa.gov); Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2024 International Building Code

Revise as follows:

1027.5 Location.
Exterior exit stairways and *ramps* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, ~~including~~ and their landings~~, to:~~

1. ~~Adjacent *lot lines*.~~
2. ~~Other portions of the *building*.~~
3. ~~Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.~~

~~For the purposes of this section, other~~ Other portions of the building shall be treated as separate *buildings* for the purpose of measuring *fire separation distance*.

~~Exception~~ Exceptions:

1. The *exterior walls* and openings of adjacent buildings located on the same lot that are protected in accordance with Section 705 based on *fire separation distance*.
2. Portions of the same building where *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.
3. *Exterior exit stairways* and *ramps* serving individual *dwelling units* of Group R-3 shall have a minimum *fire separation distance* of 5 feet (1525 mm).

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2024 International Fire Code

Revise as follows:

[BE] 1027.5 Location.
Exterior exit stairways and *ramps* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, ~~including~~ and their landings~~, to:~~

1. ~~Adjacent lot lines.~~
2. ~~Other portions of the building.~~
3. ~~Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 of the International Building Code based on *fire separation distance*.~~

~~For the purposes of this section, other~~ Other portions of the building shall be treated as separate *buildings* for the purpose of measuring *fire separation distance*.

~~Exception~~ Exceptions:

1. The *exterior walls* and openings of adjacent buildings located on the same lot that are protected in accordance with Section 705 of the International Building Code based on *fire separation distance*.
2. Portions of the same building where *exterior walls* and openings are protected in accordance with Section 705 of the International Building Code based on *fire separation distance*.

3. *Exterior exit stairways* and *ramps* serving individual *dwelling units* of Group R-3 shall have a minimum *fire separation distance* of 5 feet (1525 mm).

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Reason: The intention of this proposal is to align the location requirements of *exterior exit stairways* and *ramps* with the definition of *fire separation distance*.

As written, this code section is confusing and contradictory. The section refers *to fire separation distance* which includes a list of what the distance is to be measured to in the definition. The section also provides a separate list that includes some items from the definition, omits others and some items are totally new. The section includes a new term of adjacent *lot lines*, as opposed to the term in the definition of interior *lot lines*. Adjacent lot lines could be referring to lot lines adjacent to other lots, alleys, public ways, etc. That would mean that an exterior exit stairway or ramp would be measured to any actual lot line and not to the center of an alley or public way as the fire separation distance allows.

To improve this code section, the list of items that are to be measured to is removed. Instead the section now relies on the actual *fire separation distance* definition:

[BF] FIRE SEPARATION DISTANCE. The distance measured from the *building* face to one of the following:

1. The closest interior *lot line*.
2. To the centerline of a street, an alley or *public* way.
3. To an imaginary line between two *buildings* on the lot.

The distance shall be measured at right angles from the face of the wall.

The new exception 1 allows less than 10’ from adjacent buildings if walls and openings are protected, as currently specified in Item 3 of the deleted bullet list. The new exception 2 allows less than 10’ from other portions of the building where wall and opening protection is provided, in accordance with Item 2 of the deleted list. Item 1 of the list is not relocated as an exception since it conflicts with the definition of fire separation distance.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change proposal clarifies what the code already says. It changes confusing language that may have been misinterpreted in the past.

E105-24

E106-24

IBC: 1027.5; IFC: [BE] 1027.5

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1027.5 Location.
Exterior exit stairways and *ramps* shall be separated by ~~have~~ a minimum ~~*fire separation*~~ *distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, including landings, to:

1. Adjacent *lot lines* or to the centerline of a street, alley or public way.
2. Other portions of the *building* and other buildings on the same lot.
3. ~~Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.~~

For the purposes of this section, other portions of the building shall be treated as separate *buildings*.

~~Exception~~ Exceptions:

1. *Exterior exit stairways* and *ramps* serving individual *dwelling units* of Group R-3 shall be separated by ~~have~~ a minimum ~~*fire separation*~~ *distance* of 5 feet (1525 mm).
2. Where the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.

2024 International Fire Code

Revise as follows:

[BE] 1027.5 Location.
Exterior exit stairways and *ramps* shall be separated by ~~have~~ a minimum ~~*fire separation*~~ *distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, including landings, to:

1. Adjacent *lot lines* or to the centerline of a street, alley or public way.
2. Other portions of the *building* and other buildings on the same lot.
3. ~~Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.~~

For the purposes of this section, other portions of the building shall be treated as separate buildings.

~~Exception~~ Exceptions:

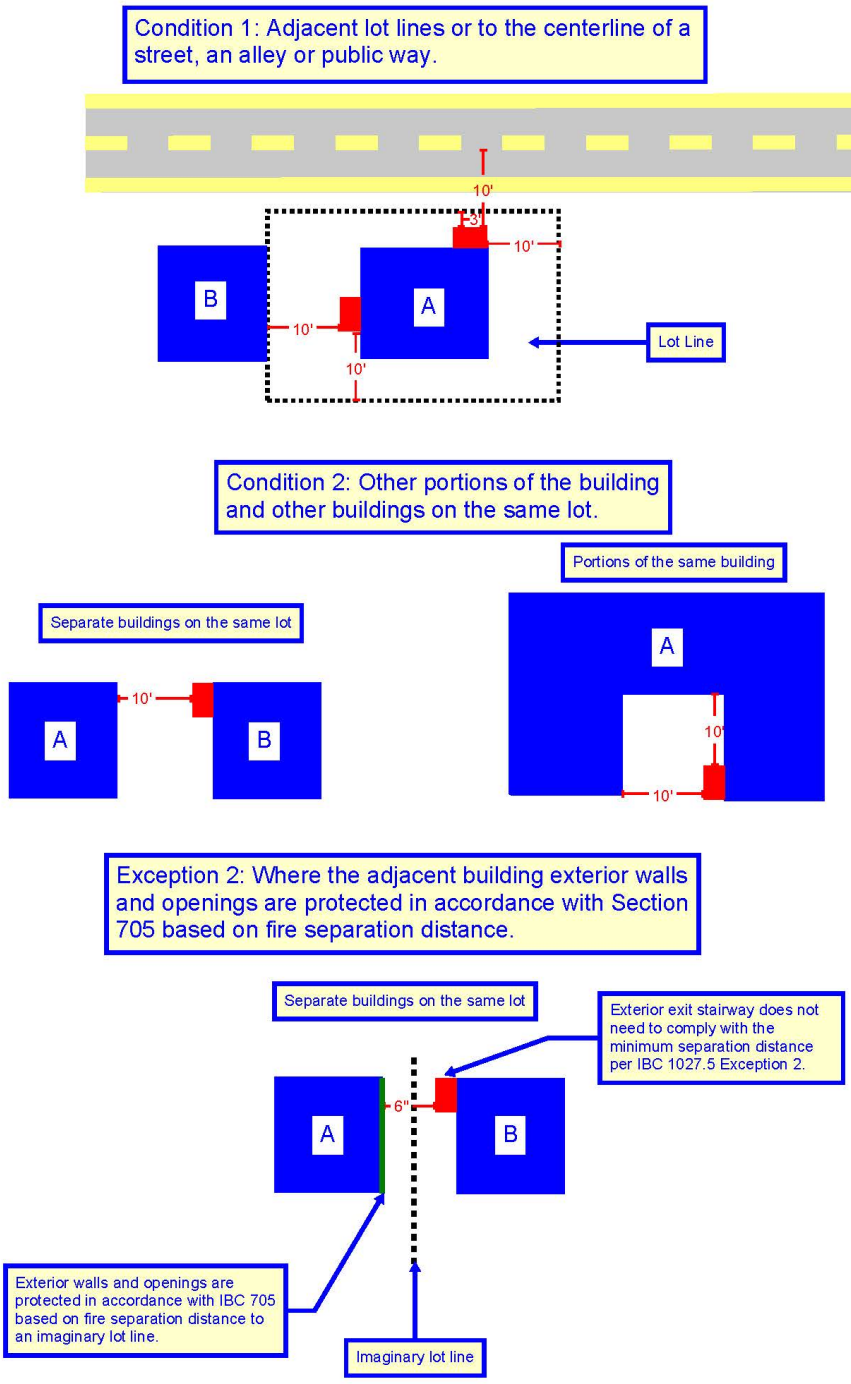
1. *Exterior exit stairways* and *ramps* serving individual *dwelling units* of Group R-3 shall be separated by ~~have~~ a minimum ~~*fire separation*~~ *distance* of 5 feet (1525 mm).
2. Where the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.

Reason: This code change is not intended to change the application of IBC 1027.5. This proposal is intended to clarify how IBC 1027.5 is measured and to remove the contradictions between the minimum distance per IBC 1027.5 and fire separation distance.

The term “fire separation distance” has a specific definition and application within the IBC and is not the correct term to use for IBC 1027.5. Fire separation distance is measured at right angles from the building face to the closest interior lot line, the centerline of a street, an alley or public way, or to an imaginary line between two buildings on the lot. IBC 1027.5 specifies that exterior exit stairways and ramps shall be separated from adjacent lot lines, other portions of the building, and other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance. Removing the term

"fire separation distance" will remove the contradiction between the definition of fire separation distance and the minimum distance required per IBC 1027.5.
Item 1 was clarified to permit the minimum separation distance to be measured to the centerline of the street, alley, or public way. Exterior exit stairways should not be limited based on the lot line where facing a street. The IBC Code Commentary specifies that the reason a minimum 10 ft separation distance is required to an adjacent lot line is in case a future building is built right on an adjacent lot. Where the lot line faces a street, alley, or public way, the hazard of a building being built right on the adjacent property line is omitted, therefore, the separation distance should be measured to the centerline of the street, alley, or public way similar to how fire separation distance is measured.

Items 2 and 3 were revised to clarify the difference between the separation distance of IBC 1027.5 and fire separation distance. The separation distance of IBC 1027.5 specifically does not reference an imaginary lot line for separate buildings on the same lot. Item 3 addresses separate buildings on the same lot and states that the distance shall be measured perpendicular from the exterior exit stairway to the adjacent building and not an imaginary lot line. A total distance of 10 ft. between buildings is an adequate distance to maintain a safe non-rated egress path. This is further supported by the requirements of egress courts which require a minimum 10 ft. width to have non-rated egress court walls. This was simplified to indicate the minimum 10 ft separation shall be measured to other portions of the building and buildings on the same lot. An exception was added to clarify that where separate buildings on the same lot are protected in accordance with IBC 705 based on fire separation distance the minimum 10 ft separation distance is not required.



Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed text clarifies the original intent of the minimum separation distance required for exterior exit stairways. A minimum 10 ft separation distance is already required per IBC 1027.5 and clarifying the way it is measured will not add any cost.

E106-24

E107-24

IBC: 1027.6; IFC: [BE] 1027.6

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1027.6 Exterior exit stairway and ramp protection.

Exterior exit stairways and *ramps* shall be separated from the interior of the *building* as required in Section 1023.2. Openings shall be limited to those necessary for egress from normally occupied spaces. Where a vertical plane projecting from the edge of an *exterior exit stairway* or *ramp* and landings is exposed by other parts of the *building* at an angle of less than 180 degrees (3.14 rad), the *exterior wall* shall be rated in accordance with Section 1023.7. Where the exterior exit stairway is recessed into the building, the separation for the exterior exit stairway or ramp shall extend to the exterior walls.

Exceptions:

1. Separation from the interior of the *building* is not required for occupancies, other than those in Group R-1 or R-2, in *buildings* that are not more than two *stories above grade plane* where a *level of exit discharge* serving such occupancies is the first *story above grade plane*.
2. Separation from the interior of the *building* is not required where the *exterior exit stairway* or *ramp* is served by an *exterior exit ramp* or balcony that connects two remote exterior exit *stairways* or other *approved exits* with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be not less than 50 percent of the height of the enclosing wall, with the top of the openings not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the *open-ended corridor* of the *building* is not required for *exterior exit stairways* or *ramps*, provided that Items 3.1 through 3.5 are met:
   3.1. The *building*, including *open-ended corridors*, and *stairways* and *ramps*, shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
   3.2. The *open-ended corridors* comply with Section 1020.
   3.3. The *open-ended corridors* are connected on each end to an *exterior exit stairway* or *ramp* complying with Section 1027. At the location where the exterior exit stairway or ramp is open to an open-ended corridor, the separation from the interior of the building shall extend to the extent of the required landing.
   3.4. The *exterior walls* and openings adjacent to the *exterior exit stairway* or *ramp* comply with Section 1023.7.
   3.5. At any location in an open-ended *corridor* where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m^2) or an *exterior stairway* or *ramp* shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or *toxic* gases.
4. In Group R-3 occupancies not more than four *stories* in height, *exterior exit stairways* and *ramps* serving individual *dwelling units* are not required to be separated from the interior of the *building* where the *exterior exit stairway* or *ramp* discharges directly to grade.

2024 International Fire Code

Revise as follows:

[BE] 1027.6 Exterior exit stairway and ramp protection.

Exterior exit stairways and *ramps* shall be separated from the interior of the building as required in Section 1023.2. Openings shall be limited to those necessary for egress from normally occupied spaces. Where a vertical plane projecting from the edge of an *exterior exit stairway* or *ramp* and landings is exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the *exterior wall* shall be rated in accordance with Section 1023.7. Where the exterior exit stairway is recessed into the building, the separation for the

exterior exit stairway or ramp shall extend to the exterior walls.

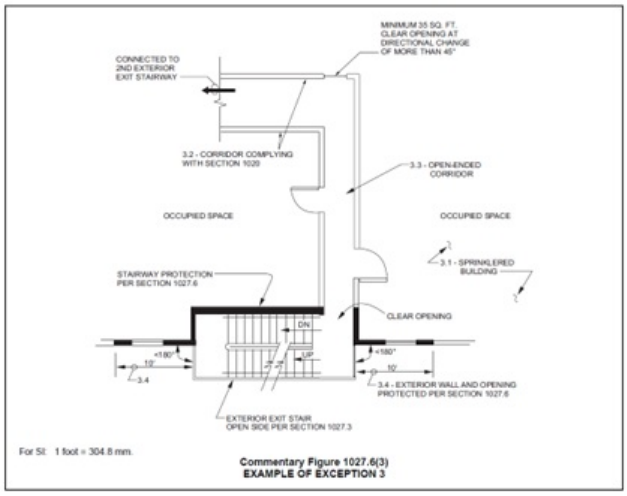
Exceptions:

1. Separation from the interior of the building is not required for occupancies, other than those in Group R-1 or R-2, in buildings that are not more than two stories above *grade plane* where a *level of exit discharge* serving such occupancies is the first story above *grade plane*.
2. Separation from the interior of the building is not required where the *exterior exit stairway* or *ramp* is served by an *exterior exit ramp* or balcony that connects two remote *exterior exit stairways* or other *approved exits*, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be not less than 50 percent of the height of the enclosing wall, with the top of the openings not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the *open-ended corridor* of the building is not required for *exterior exit stairways* or *ramps*, provided that Items 3.1 through 3.5 are met:
   3.1. The building, including *open-ended corridors*, and *stairways* and *ramps*, shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
   3.2. The *open-ended corridors* comply with Section 1020.
   3.3. The *open-ended corridors* are connected on each end to an *exterior exit stairway* or *ramp* complying with Section 1027. At the location where the exterior exit stairway or ramp is open to an open-ended corridor, the separation from the interior of the building shall extend to the extent of the required landing.
   3.4. The *exterior walls* and openings adjacent to the *exterior exit stairway* or *ramp* comply with Section 1023.7.
   3.5. At any location in an *open-ended corridor* where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m^2) or an exterior *stairway* or *ramp* shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.
4. In Group R-3 occupancies not more than four stories in height, *exterior exit stairways* and *ramps* serving individual *dwelling units* are not required to be separated from the interior of the building where the *exterior exit stairway* or *ramp* discharges directly to grade.

Reason: This proposal has two purposes:

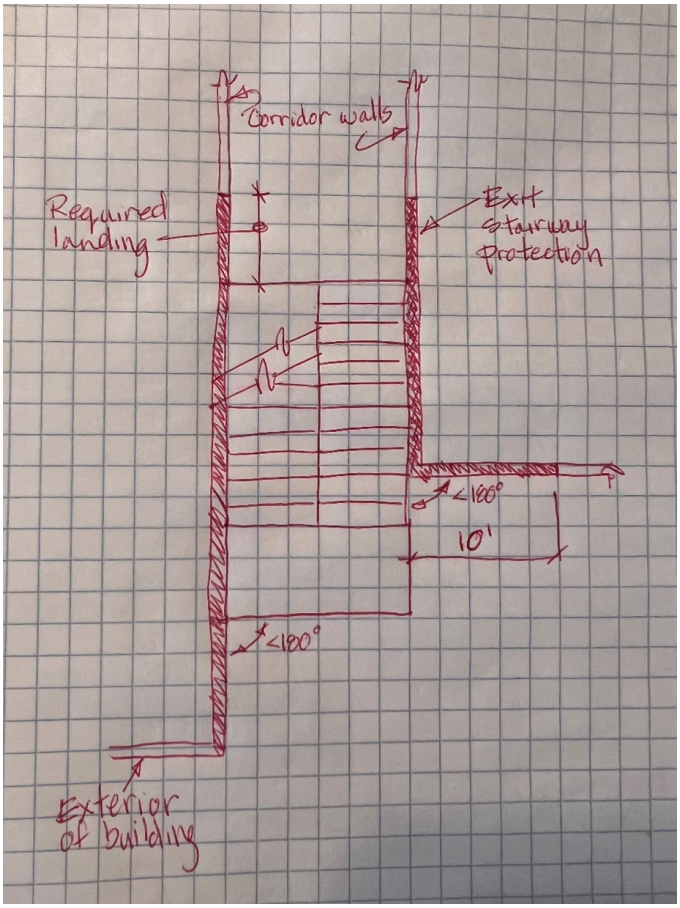
1. Address the rating/separation requirements for exterior exit stairways that are open to a breezeway at the floor landings
2. To address where a stairway may be recessed into the footprint of the building.

There has been a misinterpretation that the walls on the open-ended corridor are exterior walls in accordance with Item 3.4 instead of the corridor in accordance with 3.2. This can lead to unnecessary ratings on the corridor walls. The added sentence in 3.3 clarifies this. The sentence added in the base paragraph is to address a situation where the exterior exit stairway is completely recessed into the building. It is not clear if the walls between the exterior exit stairway and the exterior of the building is an exterior wall. However, BCAC felt the stairway does need to be available for people to leave the building, so the protection needs to be available. The following is an existing figure in IBC Commentary.



Commentary Figure 1027.6(3)
EXAMPLE OF EXCEPTION 3

The illustration below gives an orientation of a rotated stair that is partially within the building , illustrating where the rating would stop at the extent of the landing as well as illustrating how the requirement for the ten foot of exterior wall is required to be rated when less than 180 degrees.



This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of existing provisions for exterior exit stairway configurations and fire-resistance ratings for the surrounding walls. There are no changes to construction requirements.

E107-24

E108-24

IBC: 1027.6; IFC: [BE] 1027.6

Proponents: David Renn, PE, SE, City and County of Denver, Colorado Chapter Code Development Committee (david.renn@denvergov.org)

2024 International Building Code

Revise as follows:

1027.6 Exterior exit stairway and ramp protection.

Exterior exit stairways and *ramps* shall be separated from the interior of the *building* as required in Section 1023.2. Openings shall be limited to those necessary for egress from normally occupied spaces. Where a vertical plane projecting from the edge of an *exterior exit stairway* or *ramp* and landings is exposed by other parts of the *building* at an angle of less than 180 degrees (3.14 rad), the *exterior wall* shall be rated in accordance with Section 1023.7.

Exceptions:

1. Separation from the interior of the *building* is not required for occupancies, other than those in Group R-1 or R-2, where not more than one story of travel to the exit discharge is required. ~~in *buildings* that are not more than two *stories above grade plane* where a *level of exit discharge* serving such occupancies is the first *story above grade plane*.~~
2. Separation from the interior of the *building* is not required where the *exterior exit stairway* or *ramp* is served by an *exterior exit ramp* or balcony that connects two remote exterior exit *stairways* or other *approved exits* with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be not less than 50 percent of the height of the enclosing wall, with the top of the openings not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the *open-ended corridor* of the *building* is not required for *exterior exit stairways* or *ramps*, provided that Items 3.1 through 3.5 are met:
   3.1. The *building*, including *open-ended corridors*, and *stairways* and *ramps*, shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
   3.2. The *open-ended corridors* comply with Section 1020.
   3.3. The *open-ended corridors* are connected on each end to an *exterior exit stairway* or *ramp* complying with Section 1027.
   3.4. The *exterior walls* and openings adjacent to the *exterior exit stairway* or *ramp* comply with Section 1023.7.
   3.5. At any location in an open-ended *corridor* where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m^2) or an *exterior stairway* or *ramp* shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or *toxic* gases.
4. In Group R-3 occupancies not more than four *stories* in height, *exterior exit stairways* and *ramps* serving individual *dwelling units* are not required to be separated from the interior of the *building* where the *exterior exit stairway* or *ramp* discharges directly to grade.

2024 International Fire Code

Revise as follows:

[BE] 1027.6 Exterior exit stairway and ramp protection.

Exterior exit stairways and *ramps* shall be separated from the interior of the building as required in Section 1023.2. Openings shall be limited to those necessary for egress from normally occupied spaces. Where a vertical plane projecting from the edge of an *exterior exit stairway* or *ramp* and landings is exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the *exterior wall* shall be rated in accordance with Section 1023.7.

Exceptions:

1. Separation from the interior of the *building* is not required for occupancies, other than those in Group R-1 or R-2, where not more than one story of travel to the exit discharge is required. ~~in *buildings* that are not more than two *stories above grade plane* where a *level of exit discharge* serving such occupancies is the first *story above grade plane*.~~

2. Separation from the interior of the building is not required where the *exterior exit stairway* or *ramp* is served by an *exterior exit ramp* or balcony that connects two remote *exterior exit stairways* or other *approved exits*, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be not less than 50 percent of the height of the enclosing wall, with the top of the openings not less than 7 feet (2134 mm) above the top of the balcony.

3. Separation from the *open-ended corridor* of the building is not required for *exterior exit stairways* or *ramps*, provided that Items 3.1 through 3.5 are met:
   3.1. The building, including *open-ended corridors*, and *stairways* and *ramps*, shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.

   3.2. The *open-ended corridors* comply with Section 1020.

   3.3. The *open-ended corridors* are connected on each end to an *exterior exit stairway* or *ramp* complying with Section 1027.

   3.4. The *exterior walls* and openings adjacent to the *exterior exit stairway* or *ramp* comply with Section 1023.7.

   3.5. At any location in an *open-ended corridor* where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m^2) or an exterior *stairway* or *ramp* shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

4. In Group R-3 occupancies not more than four stories in height, *exterior exit stairways* and *ramps* serving individual *dwelling units* are not required to be separated from the interior of the building where the *exterior exit stairway* or *ramp* discharges directly to grade.

Reason: Section 1027.6 Exception 1 is currently limited to buildings of not more than two stories above grade plane. The commentary indicates that this exception is allowed since in the cases of fire in low buildings, the occupants are usually able to evacuate the premises before the fire can emerge through exterior wall openings and compromise the exterior exit stairway or ramp. This allowance is based on the small amount of vertical travel from an occupancy to the exit discharge, which is different than the number of stories of the building as currently written. This proposal revises this exception to be based on the amount of vertical travel to the exit discharge, which aligns with the reasoning for this exception.

This change will allow buildings to have a single-story exterior exit stairway or ramp regardless of the height of the building, as long as there is only one-story of vertical travel for occupants using the stairway or ramp. For example, a five-story office building could have spaces on the second story, or an occupied roof above the first story, such as exterior decks, conference rooms, or restaurants - these spaces are high occupant load spaces that may require the second story/occupied roof to have 3 exits, instead of 2, and an exterior exit stairway is often a good choice for this third exit. The current language would not allow this since the building is more than two stories; however, this proposal would allow this since the second story occupancies only have one story of vertical travel to the exit discharge. This change is in line with the current intent and purpose of Exception 1.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal aligns the wording in this section with the intent of the section indicated in the commentary, so there should be no cost impact.

E108-24

E109-24

IBC: 1028.2; IFC: [BE] 1028.2

Proponents: Ronald Geren, RLGA Technical Services, LLC, Self (ron@specsandcodes.com)

2024 International Building Code

Revise as follows:

1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the *building*. Where two or more *exits* are required, the termination of not less than two *exits* at the *level of exit discharge* shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the *building* or area to be served measured in a straight line between them and to any point along the width of the doorway.The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a *building*. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the *building*, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2. The depth from the exterior of the *building* is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the *building*.

4. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance shall be not less than one-third of the length of the maximum overall diagonal dimension of the building or area served.

2024 International Fire Code

Revise as follows:

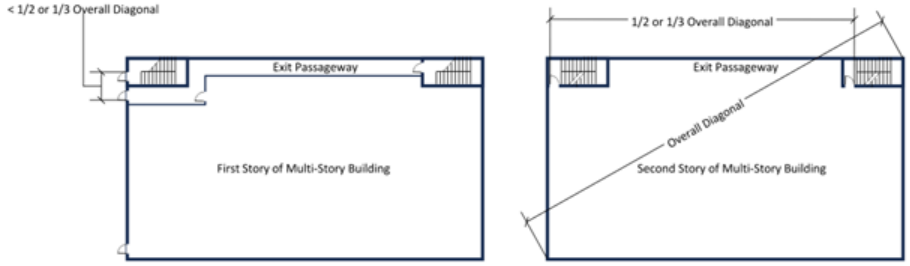
[BE] 1028.2 Exit discharge. *Exits* shall discharge directly to the exterior of the building. Where two or more *exits* are required, the termination of not less than two *exits* at the *level of exit discharge* shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the *building* or area to be served measured in a straight line between them and to any point along the width of the doorway. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including atriums, on the *level of discharge* provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior exit door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall either be equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the exit discharge door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp* enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708 of the International Building Code.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

4. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance shall be not less than one-third of the length of the maximum overall diagonal dimension of the building or area served.

Reason: Although buildings with exit doors directly to the exterior would not have a problem complying with this requirement since the exit doors require comparable separation per Section 1007.1.1, it is entirely possible to have a combination of interior exit stairways and ramps and exit passageways that provide exit discharge points that are close or even adjacent to each other (see illustration below).



Blockage of one exit discharge door would likely cause a blockage to the adjacent, thus denying any means of egress from occupants on the upper stories.

To ensure that occupants on stories other than the level of exit discharge have options to allow safe egress from the building, the code requires that no less than two means of egress be separated by either 1/2 or 1/3 the overal diagonal depending on the presence of a sprinkler system. It makes no sense to then allow these exits to discharge at locations that could be literally adjacent to each other.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The determination of the cost impact cannot be established since the variables are too many. Narrow urban sites with little to no fire separation distance would have the most difficulty in complying with the requirements, while large buildings with sufficient open space around much of the building perimeter would likely be able to comply with the requirement with no cost increase to a project.

Estimated Immediate Cost Impact Justification (methodology and variables):

The conservative approach is to state that there may be a cost increase since a building design may need additional circulation distance to accommodate the required separation. However, in most cases, separation of exit terminations is not an issue and there would be no cost impact to the construction of a building.

E109-24

E110-24

IBC: 1028.2; IFC: [BE] 1028.2

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the *building*. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a *building*. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable by exit signage from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the *building*, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2. The depth from the exterior of the *building* is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the *building*.

2024 International Fire Code

Revise as follows:

[BE] 1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including atriums, on the *level of discharge* provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior exit door and such *exit* is readily visible and identifiable by exit signage from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall either be equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the exit discharge door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp* enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708 of the International Building Code.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

Reason: Through the 2015 editions of both the IBC and NFPA 101, Life Safety Code, these two codes were consistent in their language and interpretation regarding exit discharge of interior exit stairways and ramps through areas of the building on the level of exit discharge. The 2018 edition of NFPA 101 included an amendment to Section 7.7.2(3) that clarified the intent of the code to permit the use of exit signage to direct occupants discharging from an exit enclosure to the nearest exterior exit door:

"The interior exit discharge shall lead to a free and unobstructed way to the exterior of the building, and such way shall be readily apparent or shall be identifiable by exit signage from the point of discharge from the exit."

The 2018 IBC and subsequent 2021 and 2024 editions have lagged behind NFPA 101 and have not yet amended Section 1028.2 Exception 1.1 to provide this clarification.

This proposal will clarify that exit signage is permitted to be used for this purpose and will remove the common misconception that an exterior exit discharge must be visible from the point of exit enclosure termination. The proposal will also bring the IBC back into alignment with NFPA on this issue, as had long been the case until 2018.

Bibliography: NFPA 101, Life Safety Code

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed text clarifies the original intent to allow utilization of exit signage to achieve interior exit stairway discharge through areas of the building on the level of exit discharge. The exit signage required for this purpose would already be required by Section 1013.1 and thus adds no cost."

E110-24

E111-24

IBC: 1028.2; IFC: [BE] 1028.2

Proponents: Ali Fattah, City of San Diego Development Services Department, San Diego Area Chapter of ICC (afattah@sandiego.gov)

2024 International Building Code

Revise as follows:

1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the *building*. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a *building*. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire ~~area~~ story of the *level of exit discharge* is separated from ~~areas~~ stories below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system* . Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps.*
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the *building*, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2. The depth from the exterior of the *building* is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the *building*.

2024 International Fire Code

Revise as follows:

[BE] 1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including atriums, on the *level of discharge* provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior exit door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire ~~area~~ story of the *level of exit discharge* is separated from ~~areas~~ stories below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system* . Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps.*
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the exit discharge door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp* enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708 of the International Building Code.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

Reason: This is an editorial code change that helps make code application of the requirements more consistent. Interior exit stairway protection terminates at horizontal exits and exterior exit doorways, or the stairway is extended to exterior exit doorways with exit passageways.

As written the IBC uses the undefined term area that some code users interpret to be the portion of the story at the level of exit discharge used to access the exterior exit doorways. Other code users interpret the requirement to apply to the entire story.

The latter interpretation is consistent with the IBC's philosophy that the level of protection along an egress path is not reduced and that the exceptions should be equivalent. Exit passageways, shaft enclosures protecting interior exit stairways and horizontal exits provide

protection from the entire story. Additionally, fire sprinkler protection should be throughout the story since the stairway protection protects the stairway from the entire story.

When extended with an exit passageway the path of egress is defined and the protection has a top and sides and a bottom. As a consequence, at a minimum when exception 1.3 is applied the floor between the fire barriers should be fire resistance rated and when the fire sprinkler tradeoff is selected the entire floor above the story below should be protected. Most of the cases we have seen were when the entire story is protected with fire sprinklers.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The increased cost of spray fireproofing between IIB and IIA construction is approximately $11 per sq ft. Between IB and IA, it is similar.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost was determined by analyzing the ICC Building Valuation Table and determining average variations across types of construction and occupancies for Type II and Type I.

Group (2021 International Building Code)	IA			IB			IIA		
A-1 Assembly, theaters, with stage	335.89	97%	$13.44	324.58	98%	$12.98	316.94	$12.68	98%
A-1 Assembly, theaters, without stage	307.39	96%	$12.30	296.08	97%	$11.84	288.44	$11.54	97%
A-2 Assembly, nightclubs	269.94	97%	$10.80	261.93	97%	$10.48	254.48	$10.18	97%
A-2 Assembly, restaurants, bars, banquet halls	268.94	97%	$10.76	260.93	97%	$10.44	252.48	$10.10	97%
A-3 Assembly, churches	311.88	96%	$12.48	300.57	97%	$12.02	292.93	$11.72	97%
A-3 Assembly, general, community halls, libraries, museums	266.07	96%	$10.64	254.76	97%	$10.19	246.12	$9.84	97%
A-4 Assembly, arenas	306.39	96%	$12.26	295.08	97%	$11.80	286.44	$11.46	97%
B Business	260.69	96%	$10.43	251.13	96%	$10.05	241.86	$9.67	96%
E Educational	273.46	97%	$10.94	263.96	97%	$10.56	255.62	$10.22	97%
F-1 Factory and industrial, moderate hazard	160.20	95%	$6.41	152.78	94%	$6.11	143.34	$5.73	94%
F-2 Factory and industrial, low hazard	159.20	95%	$6.37	151.78	94%	$6.07	143.34	$5.73	94%
H-1 High Hazard, explosives	149.46	95%	$5.98	142.04	94%	$5.68	133.60	$5.34	94%
H234 High Hazard	149.46	95%	$5.98	142.04	94%	$5.68	133.60	$5.34	94%
H-5 HPM	260.69	96%	$10.43	251.13	96%	$10.05	241.86	$9.67	96%
I-1 Institutional, supervised environment	262.22	96%	$10.49	252.95	97%	$10.12	244.31	$9.77	97%
I-2 Institutional, hospitals	434.15	98%	$17.37	424.59	98%	$16.98	415.32	$16.61	98%
I-2 Institutional, nursing homes	302.01	97%	$12.08	292.45	97%	$11.70	283.18	$11.33	97%
I-3 Institutional, restrained	295.86	97%	$11.83	286.31	97%	$11.45	277.03	$11.08	97%
I-4 Institutional, day care facilities	262.22	96%	$10.49	252.95	97%	$10.12	244.31	$9.77	97%
M Mercantile	201.37	96%	$8.05	193.36	96%	$7.73	184.91	$7.40	96%
R-1 Residential, hotels	264.67	97%	$10.59	255.41	97%	$10.22	246.77	$9.87	97%
R-2 Residential, multiple family	221.32	96%	$8.85	212.06	96%	$8.48	203.42	$8.14	96%
R-3 Residential, one- and two-family [d]	209.61	97%	$8.38	203.74	98%	$8.15	198.94	$7.96	98%
R-4 Residential, care/assisted living facilities	262.22	96%	$10.49	252.95	97%	$10.12	244.31	$9.77	97%
S-1 Storage, moderate hazard	148.46	95%	$5.94	141.04	93%	$5.64	131.60	$5.26	93%
S-2 Storage, low hazard	147.46	95%	$5.90	140.04	94%	$5.60	131.60	$5.26	94%
U Utility, miscellaneous	114.09	94%	$4.56	107.37	93%	$4.29	99.89	$4.00	93%
Average		96%	$9.79		96%	$9.43		$9.09	96%

E112-24

IBC: 1028.2; IFC: [BE] 1028.2

Proponents: Jeffrey Grove, Coffman Engineers, Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the *building*. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a *building*. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the *building*, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2. The depth from the exterior of the *building* is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.

      Exception: The maximum transmitted temperature rise is not required.

   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the *building*.

4. Exit discharge onto the roof of the same building or onto a horizontal building separation per Section 510.2 is permitted when all of the following criteria are met:
   4.1. The exit discharge shall be provided with a free and unobstructed path of travel that is readily visible and identifiable, that does not include re-entering the building or utilizing an interior exit stairway or ramp or exterior exit stairway or ramp.
   4.2. The roof assembly, for the structural bays that support the required exit discharge path, shall have no unprotected openings, and not less than a one-hour fire resistance rating, and not less than the fire resistance rating required for the exit enclosure that discharges onto the roof.

2024 International Fire Code

Revise as follows:

[BE] 1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the *building*, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2. The depth from the exterior of the *building* is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.
      Exception: The maximum transmitted temperature rise is not required.
   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the *building*.

4. Exit discharge onto the roof of the same building or onto a horizontal building separation per Section 510.2 is permitted when all of the following criteria are met:
   4.1. The exit discharge shall be provided with a free and unobstructed path of travel that is readily visible and identifiable, that does not include re-entering the building or utilizing an interior exit stairway or ramp or exterior exit stairway or ramp.
   4.2. The roof assembly, for the structural bays that support the required exit discharge path, shall have no unprotected openings, and not less than a one-hour fire resistance rating, and not less than the fire resistance rating required for the exit enclosure that discharges onto the roof.

Reason: This code change proposal is intended to extend the concept of exit discharge through interior areas on the level of exit discharge, as provided in Exception 1, to exterior areas that happen to be located above other building areas. This is a typical condition in urban areas where the footprint of lower levels, such as a below-grade parking garage, is larger than the footprint of upper levels. It is understood that this condition is not permitted by Section 1028.2, because the roof of the below-grade areas would not be considered "grade". The intent is to provide an equivalent level of safety as is provided for interior discharge configurations, by providing a fire resistance rating for the roof area in close proximity to the exit discharge path, without unprotected openings.

Item 4.1 makes clear that this provision is not intended to allow an occupant to leave an exit stair at an upper story of a building, travel across a roof, and enter another exit. Any vertical changes in elevation along the exit discharge path across the roof would be limited to less than one full story, as otherwise the stairway or ramp would be considered an exterior exit stairway or ramp.

Item 4.2 ensures that a minimum level of fire resistance be provided from below-grade interior spaces, and that roof assemblies in the vicinity of the exit discharge path do not have unprotected openings, which are otherwise permitted in roof assemblies. As part of the exit discharge path, the requirements for egress courts in IBC 1028.4 would still be applicable, if the configuration of the roof surface included an egress court condition. Note that NFPA 101 Life Safety Code has a similar provision in Section 7.7.6, which states the following:

7.7.6 Discharge to Roofs. Where approved by the authority having jurisdiction, exits shall be permitted to discharge to roofs or other sections of the building or an adjoining building where all of the following criteria are met:

(1) The roof/ceiling assembly construction has a fire resistance rating not less than that required for the exit enclosure.

(2) A continuous and safe means of egress from the roof is available.

Bibliography: NFPA 101 Life Safety Code

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal is considered to have no cost impact because the exterior surface that occupants will utilize for exit discharge will likely either be a horizontal building separation / Type IA roof assembly, which requires a fire resistance rating, or the roof of a below-grade portion of the building (such as an underground parking garage), which are typically constructed of concrete.

E112-24

E113-24

IBC: 1031.2; IFC: [BE] 1031.2

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-2 occupancies with only one exit or access to only one exit as permitted by Section 1006.3.4 Exceptions 2 and 5.
3. ~~2~~. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way, or to an egress balcony that leads to a public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

2024 International Fire Code

Revise as follows:

[BE] 1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-2 occupancies with only one exit or access to only one exit as permitted by Section 1006.3.4 Exceptions 2 and 5.
3. ~~2~~. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way* , or to an egress balcony that leads to a *public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

Reason: BCAC did not believe that a building should be able to use 1006.3.4 Exception 2 and 5 and not have to have EERO in a bedroom. A building does have to provide EERO if you use Exception 1 for Group R-2.

Exception 2 is limited to exits at the level of exit discharge, however Exception 5 could be multiple stories. Building using Exception 2 could be a single story unit with multiple rooms, or an efficiency unit. Travel distance in Table 1006.2.1 is 125 feet. An R-2 townhouse can use an NFPA13D system. BCAC has a separate change for travel distance for Group R-2 with an NFPA 13D (suggesting 75 feet).

This proposal is submitted by the ICC Building Code Action Committee (BCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This provides clarification for requirements for emergency escape and rescue opening in all low rise residential units with a single exit that and meets the original intent to provide the option of an EERO from bedrooms.

E113-24

E114-24

IBC: 1031.2; IFC: [BE] 1031.2

Proponents: Jeffrey Munsterteiger, National Association of Home Builders, National Association of Home Builders (jmunsterteiger@nahb.org)

2024 International Building Code

Revise as follows:

1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way, or to an egress balcony that leads to a public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.
6. In Groups R-2 and R-3, a yard shall not be required to open directly into a public way where the yard opens to an unobstructed path from the yard to the public way. Such path shall have a width of not less than 36-inches (914 mm).

2024 International Fire Code

Revise as follows:

[BE] 1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way* , or to an egress balcony that leads to a *public way* .

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.
6. <u>In Groups R-2 and R-3, a yard shall not be required to open directly into a public way where the yard opens to an unobstructed path from the yard to the public way. Such path shall have a width of not less than 36-inches (914 mm).</u>

Reason: The purpose of this code change is to allow an EERO to discharge into a yard that does not directly open onto a public way if a minimum 36-inch-wide path is provided from the yard to the public way. This language is similar to language that was approved in the IRC last cycle. In many cities, new townhouses are being constructed on infill lots with tight space limitations. Back yards may already be enclosed because of placement of fences on neighboring lots. There are many examples of this in cities throughout the country where backyard fences are added after the structure was built leaving existing EERO to discharge into a fenced back yard. In some cases, a builder may want to construct two rows of townhouses that are tight up to the street but that have fenced backyards for each unit. Under the current code, the builder must construct all EERO facing the front of the units, with a window well in the sidewalk to access a basement EERO or forgo the private fenced yards as there will likely not be enough space to provide a 10-foot wide “public way”. The problems with placing an EERO in the front to allow a fenced yard in the back include coordinating the location with entry doors and front steps, coordinating the location with utilities, and providing a secure cover over the window well that prevents passers-by from dropping trash into the window well or falling. The problem with forgoing fenced yards is the loss of security for children and pets, and privacy.

While a 10-foot-wide path between back-to-back fenced yards is almost certainly not feasible, a 3-foot path may be in many cases. The new exception would allow such a path, that occupants could use to get out of their yard after escaping through an EERO or that firefighters could use to access the fenced yard for firefighting and rescue operations without having to breach or climb over a series of fences. In these multi-family arrangements this space most-likely would be a common space maintained by the management company or by an association.

Support for choosing the 36-inch minimum width can be found in NFPA 101 (2024) where exit discharge paths leading to a public way are allowed to be a minimum of 36-inches wide in Section 7.7.1.2 for all occupancies and occupant loads. Similarly, IBC Table 1020.3 allows corridors 36-inches in width when serving any occupant load of less than 50 in all occupancies.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The code change proposal will not increase or decrease the cost of construction. The code change does not change the requirement to provide an EERO for sleeping rooms. Thus, there should be no increase in cost because of this proposal.

There may be a modest savings from the added ability to locate a basement EERO in the rear of the home, where covers may not be

required and coordination with utilities is easier.

E114-24

E115-24

IBC: 1031.2.1, 1031.3, 1031.3.3, 1031.6; IFC: [BE] 1031.2.1, [BE] 1031.3, [BE] 1031.3.3, [BE] 1031.6

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1031.2.1 Operational constraints and opening control devices.
Emergency escape and rescue openings shall be operational from inside the room without the use of keys or tools. Window-opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required *emergency escape and rescue opening.*

1031.3 Emergency escape and rescue openings.
Emergency escape and rescue openings shall ~~comply~~ have dimensions in accordance with Sections 1031.3.1 through 1031.3.3.

1031.3.3 Maximum height from floor.
Where a window is provided as the emergency ~~*Emergency*~~ *escape and rescue openings*, such window shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

1031.6 Bars, grilles, covers and screens.
Where bars, grilles, covers, screens or similar devices are placed over *emergency escape and rescue openings* or area wells that serve such openings, the minimum net clear opening size shall comply with Sections 1031.3 through 1031.3.2 and ~~1031.5~~ 1031.5.1. Such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the *emergency escape and rescue opening*.

2024 International Fire Code

Revise as follows:

[BE] 1031.2.1 Operational constraints and opening control devices.
Emergency escape and rescue openings shall be operational from inside the room without the use of keys or tools. Window-opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

[BE] 1031.3 Emergency escape and rescue openings.
Emergency escape and rescue openings shall ~~comply~~ have dimensions in accordance with Sections 1031.3.1 through 1031.3.3.

[BE] 1031.3.3 Maximum height from floor.
Where a window is provided as the emergency ~~*Emergency*~~ *escape and rescue openings*, such window shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

[BE] 1031.6 Bars, grilles, covers and screens.
Where bars, grilles, covers, screens or similar devices are permitted to be placed over *emergency escape and rescue openings*, or area wells that serve such openings, the minimum net clear opening size shall comply with Sections 1031.3 through 1031.3.2. and ~~1031.5~~ 1031.5.1. Such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening.

Reason: The intent of this code change is to complete the coordination for EERO in IBC and IRC where appropriate. There were multiple proposals during the last two cycles and this was split between Group A and B, so some items remain to be coordinated.
1031.2.1 – It was pointed out during the IRC changes that ASTM F2090 was applicable to control devices and fall prevention

devices. This revision would also coordinate with IRC Section R319.1.1.

1031.3 – This is a more specific description of the referenced sections. This will coordinate with R319.2.

1031.3.3 - EEROs can be doors or windows. The prosed revision in text would clarify that the bottom of the opening applies only to windows. This change was approved for IRC R319.2.3.

This proposal was disapproved last cycle because there was a misinterpretation that this revision was limiting the EERO to windows only, and not allowing doors. This section only references windows because only windows have a bottom edge requirement. A door would be controlled through the general door requirements for thresholds and landings, but it can still be an EERO (Section 1031.4). This is the proposed language in context.

1031.3 Emergency escape and rescue openings. Emergency escape and rescue openings shall ~~comply~~ have minimum dimensions in accordance with Sections 1031.3.1 through 1031.3.3.

1031.3.1 Minimum size. Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m^2). **Exception:** The minimum net clear opening for grade floor emergency escape and rescue openings shall be 5 square feet (0.46 m^2).

1031.3.2 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

1031.3.3 Maximum height from floor. Where a window is provided as the emergency ~~Emergency~~ escape and rescue openings, such window shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These changes are coordination between the provisions for EERO in IBC and IRC. This is consistent with the EERO proposals the BCAC submitted for the 2024 codes. There are not changes to requirements.

E115-24

E116-24

IBC: 1103.2.11

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

1103.2.11 Residential Group R-1 or R-3. *Buildings* of Group R-1 ~~containing not more than five *dwelling units* and *sleeping units* in aggregate for rent or hire~~ that are ~~also~~ occupied as the residence of the proprietor and that contain not more than five *guestrooms* for rent or hire are not required to comply with this chapter. *Buildings* of Group R-3 *congregate living facilities* (*transient*) or *boarding houses* (*transient*) ~~containing not more than five *sleeping units* for rent or hire~~ that are ~~also~~ occupied as the residence of the proprietor and that contain not more than five *guestrooms* for rent or hire are not required to comply with this chapter.

Reason: G44-21 Part 1 revised this section as part of a generic change that recognized that hotels can have sleeping units or dwelling units. However, this is a very specific exception in Chapter 11 that was consistent with a similar exception in IRC Section R322.1 and the 2010 ADA. This is intended to exempt small bed-n-breakfast facilities where the owner lives (possible dwelling unit) in the same building and there are only 5 guestrooms (sleeping units). By saying 'aggregate' this could be read to add the owner's living quarters to the count. Also, this exception is not intended to extend to small transient apartment buildings that offer units for rent, even if the owner lived in the building. Since the IBC now includes a definition for 'guestroom', it is clearer to just go back to that language for this specific section. That would also be consistent terms used in Section 310.4.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0 - Assuming that the owner's apartment and shared space are approximately 50% of the building, allowing for 5 instead of 4 guestrooms would result in a savings of approximately 10% of the cost of the building. The cost of the building varies widely by size and local.

Estimated Immediate Cost Impact Justification (methodology and variables):

This is not a change from what was required in the 2021 and previous codes and the 2010 ADA. This will be a reduction in cost because it would restore the 5 guestrooms plus the owners apartment instead of only 4 guestrooms with the owners apartment.

E117-24

IBC: 1105.1

Proponents: Steve Thomas, Shums Coda Associates, Himself (sthomas@coloradocode.net)

2024 International Building Code

Revise as follows:

1105.1 Public entrances.
In addition to accessible entrances required by Sections 1105.1.2 through 1105.1.8, at least 60 percent of all *public entrances* shall be accessible.

Exceptions:

1. An accessible entrance is not required to areas not required to be accessible.
2. Loading and *service entrances* that are not the only entrance to a tenant space.
3. Groups R-2, R-3 or R-4 occupancies containing Accessible, Type A or Type B Units, including accessory occupancies in accordance with Section 508.2 shall be provided with no fewer than one accessible public entrance.

Reason: The Federal Fair Housing Act does not require more than one entrance to buildings regulated under that standard. The intent of this proposal is to be consistent with those provisions and clarify that 60% of the entrances are not required to be accessible but that at least one entrance must be accessible. Section 1108.4 states the following:

Not fewer than one accessible route shall connect accessible building or facility entrances with the primary entrance of each Accessible unit, Type A unit and Type B unit within the building or facility and with those exterior and interior spaces and facilities that serve the units.

We believe that this provides supporting documentation that only one accessible route and entrance is required to a residential building.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of the intent of the code. This requirement is consistent with the Fair Housing Act and the current code language in 1105.1.8.

E117-24

E118-24

IBC: 1106.2, 1107.2.1, 1107.2.2

Proponents: Gene Boecker, CCI, self (geneb@codeconsultants.com); Matt Lescher, CCI, self (mattl@codeconsultants.com); Richard Williams, CWA Consultants, Self (richard@cwaconsultants.net); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

Revise as follows:

1106.2 Required.
Where parking is provided, accessible parking spaces shall be provided in compliance with Table 1106.2, except as required by Sections 1106.3 through 1106.5. Where more than one parking *facility* is provided on a *site*, the number of parking spaces required to be accessible shall be calculated separately for each parking *facility*. The vehicle spaces for the electric vehicle charging stations shall not be considered a type of parking space or be included in the number of parking spaces provided on a site.

~~**Exception**~~ **Exceptions:**

1. This section does not apply to parking spaces used exclusively for buses, trucks, other delivery vehicles, law enforcement vehicles or vehicular impound and motor pools where *lots* accessed by the public are provided with an accessible passenger loading zone.
2. In Group R-2 occupancies, where accessible vehicle spaces served by electrical vehicle charging stations are assigned to Accessible or Type A dwelling units, the accessible vehicle space shall be permitted to be counted as accessible parking spaces.

1107.2.1 Number of accessible vehicle spaces.
Not less than 5 percent of vehicle spaces on the *site* served by electrical vehicle charging systems, but not fewer than one for each type of electric vehicle charging system, shall be accessible.

Exception: In Group R-2 occupancies, where vehicle spaces are assigned to specific dwelling units or sleeping units, at least one accessible vehicle space served by electrical vehicle charging systems shall be provide for each Accessible or Type A unit. At least one additional accessible vehicle space served by an electrical vehicle charging station shall be provided.

Delete without substitution:

~~**1107.2.2 Vehicle space size.**~~
~~Accessible vehicle spaces shall comply with the requirements for a van accessible parking space that is 132 inches (3350 mm) minimum in width with an adjoining access aisle that is 60 inches (1525 mm) minimum in width.~~

Reason: During last code change cycle the exception for R-2 occupancies was eliminated, meaning that electric vehicle charging stations (EVCSs) needed to be provided for residential occupancies. It is understood that EVCSs are not parking spaces and are intended to be treated as a vehicle amenity. The last sentence in 1107.2.1 addresses that. However, in residential parking facilities it is common to have EVCSs provided to parking spaces.

The proposal includes an exception that allows parking spaces to be also considered EVCSs under a limited condition. In many cases, where EVCSs are provided to multiple individual residential parking spaces, the number of EVCS can be 10, 20 or even 30 spaces. As time progresses, the number could eventually be the entire parking facility. This would require a potential retroactive revision of parking spaces to allow for the 5 percent accessible EVCSs in a facility which may need to reduce the number of total parking spaces to accommodate the 5 percent.

For example, in a parking facility with 300 dwelling units and 300 parking spaces with 20 parking spaces intended to be EVCSs, under the current way this is worded, a single additional EVCS is required (5% of 20) since EVCS are amenities, not parking spaces. However, if all 300 parking spaces are designed to be EVCS, then 15 accessible EVCS would be required.

With the proposed change, for the 20 EVCS, nothing is different; a single accessible EVCS would be required. However, for the situation where all 300 spaces are EVCS, the number of accessible EVCS would be more reasonable. All 6 Type A units would have parking spaces designed to be accessible and a single, independent EVCS would be provided; 7 instead of 15. This is a more manageable way to address residential EVCS design in residential facilities.

The A117.1 has approved ,for the next edition, technical criteria for EV charging spaces that are consistent with the guidance from the U.S. Access Board. Section 1107.2.2 is deleted since this is in conflict with those requirements and is no longer needed.

Bibliography: https://energy5.com/how-much-does-a-commercial-ev-charging-station-cost
https://wattlogic.com/blog/commercial-ev-charging-stations-cost/
https://4frontenergy.com/blog/commercial-ev-charging-station-cost/
https://cyberswitching.com/commercial-ev-charging-station-cost/
https://futureenergy.com/ev-charging/how-much-do-ev-charging-stations-cost/
https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf

Cost Impact: Decrease

Estimated Immediate Cost Impact:

According to several sources on the internet, a commercial EVCS can cost between $3,000 and $60,000 with the average being between $7,000 and $10,000. Assuming the low end of the average cost, given the scenario above, the cost saving for providing 7 stations instead of 15 stations would be around $56,000. This would be a cost savings of $46,000 or more. The variables include the number of Type A units and the number of intended EVCS over the life of the facility.

Estimated Immediate Cost Impact Justification (methodology and variables):

The methodology provided for the added code text would not impact facilities where all units are Type B but would likely decrease the number of accessible EVCS for residential facilities while still maintaining at least one EVCS that is not specifically assigned to a residential unit.

Estimated Life Cycle Cost Impact:

he life cycle costs would vary on prices for EVCS in the future and the number of EVCS.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

As noted above, variables are numbers of EVCS and numbers of Type A units.

E118-24

E119-24

IBC: 1106.3.1 (New)

Proponents: Gene Boecker, CCI, self (geneb@codeconsultants.com); Matt Lescher, CCI, self (mattl@codeconsultants.com); Richard Williams, CWA Consultants, Self (richard@cwaconsultants.net); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

1106.3 Groups R-2, R-3 and R-4.
Accessible parking spaces shall be provided in Group R-2, R-3 and R-4 occupancies in accordance with the greatest number of parking spaces of any of the following:

1. In Group R-2, R-3 and R-4 occupancies that are required to have *Accessible*, Type A or *Type B dwelling units* or *sleeping units*, at least 2 percent, but not less than one, of each type of parking space provided shall be accessible.
2. Where at least one parking space is provided for each *dwelling unit* or *sleeping unit*, at least one accessible parking space shall be provided for each *Accessible* and *Type A unit*.

Add new text as follows:

1106.3.1 Parking for other than residents. In parking lots serving Group R-2, R-3 and R-4 occupancies, where parking spaces are provided for persons other than residents, parking for such spaces shall be provided in accordance with Table 1106.2.

Reason: The additional text is necessary to clarify that the parking spaces at residential facilities can be based upon each “facility” and that guest parking, employee parking, parking for the leasing office, etc. are not intended to be included as parking the calculation for residential parking noted in Section 1106.3. The language is the same as that in Section 208.2.3.3. This is also consistent with the manner in which HUD interprets the condition.

Bibliography: 2010 ADA Standards for Accessible Design

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The intent is only to provide clarity to the condition where confusion has been present for non-resident parking requirements.

E120-24

IBC: 1107.2, 1107.2.1, 1107.2.2, 1107.2.2.1 (New), 1107.2.3 (New), 1107.2.3.1 (New), 1107.2.3.2 (New), 1107.2.3.3 (New), 1107.2.4 (New), 1107.2.4.1 (New), 1107.2.4.2 (New), 1112.1

Proponents: Jeffrey Grove, Southern Nevada ICC Chapter (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

1107.2 Electrical vehicle charging stations.
Electrical vehicle charging stations shall comply with Sections 1107.2.1 ~~and 1107.2.2~~ through 1107.2.4.

Exceptions:

1. *Electrical vehicle charging stations* provided to serve Group R-3 and R-4 occupancies are not required to comply with this section.
2. Electric vehicle charging stations used exclusively by buses, trucks, other delivery vehicles, law enforcement vehicles and motor pools are not required to comply with this section.

1107.2.1 Number of accessible vehicle spaces. Not less than 5 percent of vehicle spaces on the *site* served by electrical vehicle charging systems, but not fewer than one for each type of electric vehicle charging system, shall be accessible. Where new electric vehicle charging stations are installed in facilities with existing electric vehicle charging stations, the total number of accessible spaces provided shall include both existing and new electric vehicle charging stations. Where an electric vehicle charging station charger can simultaneously charge more than one vehicle, the number of electric vehicle charging stations provided shall be considered equivalent to the number of electric vehicles that can be simultaneously charged. Parking spaces serving electric vehicle charging stations shall not be permitted to count towards the number of accessible parking spaces required by Section 1106.

1107.2.2 Vehicle space size.
Accessible vehicle charging spaces shall ~~comply with the requirements for a van accessible parking space that is~~ be132 inches (3350 mm) minimum in width, 240 inches (6096 mm) minimum in length, and 98 inches (2489 mm) minimum in height with an adjoining access aisle ~~that is 60 inches (1525 mm) minimum in width~~ complying with Section 1107.2.3.

Add new text as follows:

1107.2.2.1 Vehicle charging space marking. The vehicle charging spaces shall be marked to define the width and length. Where vehicle charging spaces are marked with lines, the width measurements of vehicle charging spaces and adjacent access aisles shall be made from the centerline of the markings.

Exceptions:

1. Where parking spaces or access aisles are not adjacent to another vehicle charging space or access aisle, measurements shall be permitted to include the full width of the line defining the vehicle charging space or access aisle.
2. Vehicle charging space in pull-through electric vehicle charging stations are not required to comply with this section.

1107.2.3 Access aisle. The vehicle charging spaces shall have an adjacent access aisle complying with Section 1107.2.3.1 through 1107.2.3.3. Access aisles shall adjoin an accessible route. Two vehicle charging spaces shall be permitted to share a common access aisle. Access aisles shall not overlap with the vehicular way. The vehicle charging spaces shall be permitted to have access aisles placed on either side of the vehicle charging space.

1107.2.3.1 Width. Access aisles serving the vehicle charging spaces shall be 60 inches (1525 mm) minimum in width.

1107.2.3.2 Length. Access aisles shall extend the full length of the vehicle charging spaces they serve.

1107.2.3.3 Marking. Access aisles shall be marked so as to discourage parking in them. Where access aisles are marked with lines, the width measurements of access aisles and adjacent vehicle charging spaces shall be made from the centerline of the markings.

Exceptions:

1. Where access aisles or vehicle charging spaces are not adjacent to another access aisle or vehicle charging space, measurements shall be permitted to include the full width of the line defining the access aisle or vehicle charging space
2. Vehicle charging space in pull-through EV charging stations are not required to comply with this section.

1107.2.4 Accessible routes. Accessible routes shall be provided to serve *electric vehicle charging stations* in accordance with Sections 1107.2.4.1 and 1107.2.4.2.

1107.2.4.1 Building or facility. Accessible *electric vehicle charging stations* that serve a building or facility on the same site shall be located along an *accessible route* providing access to an *accessible* building entrance. Where *accessible electric vehicle charging stations* do not serve a building or facility on the same site, they shall be located along an accessible route providing access to the *public way*.

1107.2.4.2 Charging stations. *Accessible electric vehicle charging stations* shall be provided with an *accessible route* between the *accessible* aisle serving it and all related operable parts and other equipment. When a vehicle is being charged, the *accessible route* shall not be obstructed by the cable between the vehicle and the charging station.

Revise as follows:

1112.1 Signs.

Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations.

1. Accessible parking spaces required by Section 1106.2.

   Exception: Where the total number of parking spaces provided is four or less, identification of accessible parking spaces is not required.

2. Accessible parking spaces required by Section 1106.3.

   Exception: In Group I-1, R-2, R-3 and R-4 *facilities*, where parking spaces are assigned to specific *dwelling units* or *sleeping units*, identification of accessible parking spaces is not required.

3. Accessible electric vehicle charging station signs shall include “Accessible EV Charing - Use Last”. Signs shall be 60 inches (1525 mm) minimum above the floor of the vehicle charging space, measured to the bottom of the sign.

~~3~~4. Accessible passenger loading zones.

~~4~~5. Accessible toilet or bathing rooms where not all toilet or bathing rooms are *accessible*.

~~5~~6. Accessible entrances where not all entrances are accessible.

~~6~~7. Accessible checkout aisles where not all aisles are accessible. The sign, where provided, shall be above the checkout aisle in the same location as the checkout aisle number or type of checkout identification.

~~7~~8. Accessible dressing, fitting and locker rooms where not all such rooms are accessible.

~~8.~~ *Accessible areas of refuge* in accordance with Section 1009.9.

~~9~~10 Exterior areas for assisted rescue in accordance with Section 1009.9.

~~10~~11. In recreational *facilities*, lockers that are required to be accessible in accordance with Section 1110.12.

Reason: This code change is proposing to add language to more closely align accessibility requirements with the existing requirements for parking and accessibility in Section 1106 and ANSI A117.1 as well as the recommendations from the U.S. Access board while allowing for more sustainable implementation. The current language attempts to rely on the provisions in ANSI 117.1 to identify the requirements of vehicle charging spaces such as is done with accessible parking spaces. Currently, ANSI 117.1 does not have

requirements specific to vehicle charging spaces. This leaves language open to misinterpretation and increases the probability of conflicts between the two code documents.

The vehicle space size was chosen based on the recommendations of the U.S. Access Board. It was determined that these mobility features allow sufficient space for a person who uses a mobility device to exit and maneuver around the vehicle, retrieve the EV connector, and plug the connector into the electric vehicle charging inlet. Since EVs do not have a uniform vehicle charging inlet location, a larger vehicle charging space is needed to maneuver around all sides of the electric vehicle.

The current version of the code would allow for the accessible charging stations to be counted towards the overall accessible parking requirement for the site. Making the charging station a required accessible parking space with accessible signage could potentially prevent people who are able bodied from being permitted to utilize the charging stations without facing fines and/or other legal penalties. In a small group of charging stations this could lead to an extremely low utilization rate on the charging stations affecting the viability of the installation. By allowing smaller groups of charging stations to be accessible without requiring them to be dedicated, the utilization rates will be higher. Adding the signage requirement to Section 1112.1 would further clarify anyone may use the accessible charging space with preference that it be used last. The overall resources required will be reduced allowing for a more rapid implementation of the charging network.

Adding a requirement to provide access to a building or public way is necessary to provide equal access. An accessible route to a building will by default provide access to a public way as the code already requires buildings be connected to a public way by an accessible route. Requiring charging stations not on a site with buildings to connect to a public way allows users to have access to public transportation or businesses off site. While many charging stations are rapid charging stations, some take a significant amount of time to complete a charge. In that time people may walk to get some food or use a nearby restroom facility. Another scenario where this becomes important is in the event the vehicle becomes disabled at the charging station and the user needs to leave the site to seek shelter or other transportation.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Typical fast charger equipment cost is $30,000-$50,000.

Estimated Immediate Cost Impact Justification (methodology and variables):

By eliminating the need to install a dedicated accessible underutilized charger, the overall number of chargers can be reduced by at least 1. There are too many variables to estimate the additional infrastructure cost. Distance from utility access to 3 phase power, free capacity on existing service, site characteristics, ect. are all highly variable contributors to the construction cost.

E120-24

E121-24

IBC: 1108.6.2.2.1

Proponents: Gene Boecker, CCI, self (geneb@codeconsultants.com); Matt Lescher, CCI, self (mattl@codeconsultants.com); Richard Williams, CWA Consultants, Self (richard@cwaconsultants.net); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

Revise as follows:

1108.6.2.2.1 Type A units.
In Group R-2 occupancies containing more than 20 *dwelling units* or *sleeping units*, at least 2 percent but not less than one of the units shall be a *Type A unit*. All Group R-2 units on a *site* shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units. Where two or more *Type A units* are provided, at least 5 percent but not less than one *Type A unit* shall include a bathroom with a shower complying with ICC A117.1 for *Type A units*.

Exceptions:

1. The number of *Type A units* is permitted to be reduced in accordance with Section 1108.7.
2. *Existing structures* on a *site* shall not contribute to the total number of units on a *site*.
3. Where multi-story dwelling units or sleeping units are provided, one-story dwelling units or sleeping units shall be permitted to be considered the same class of unit provided the one-story unit has equivalent rooms and spaces.

Reason: The added exception makes it clear how to approach multi-story units where Type A units are provided. The text is the same as that in the ADA 2010 Standards and located as an exception to Section 233.3.5, Dispersion. While the types of units identified in Section 233 are more similar to those required for facilities subject to Section 504 of the 1973 Rehabilitation Act, the actual dwelling unit design is relatively similar to that of a Type A unit. Since there is currently no clear guidance as far as what to do where multi-story units are provided within a facility where Type A units are required, this is essentially providing clarity to a subject not currently addressed.

Bibliography: 2010 ADA Standards for Accessible Design

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Currently there is no code language on how to address the condition. Many jurisdictions may already be using this interpretation. It simply addresses what must be done for a condition that has not had specific code language previously.

E122-24

IBC: 1108.5.1.1, 1108.5.1.2, 1108.5.2.1, 1108.5.4, 1110.2.2, 1110.2.2.1, 1110.2.2.2, 1110.2.2.2.1, 1110.2.2.2.2, 1110.2.2.2.3, 1110.2.2.3, 1110.2.2.4, 1110.2.2.5, 1110.2.2.6, 1110.2.3, 1110.2.3.1, 1110.2.3.2, 1110.2.3.3, 1110.2.3.3.1, 1110.2.3.3.2, 1110.2.3.4, 1110.2.3.5, 1110.2.3.6, 1110.2.3.7, 1110.2.3.8, 1110.2.3.9

Proponents: Matt Lescher, CCI, self (mattl@codeconsultants.com); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com); Gene Boecker, CCI, self (geneb@codeconsultants.com); Jim Safranek, Safranek Group LLC, Self (jim@safranekgroup.com)

2024 International Building Code

1108.5 Group I.
Accessible units and *Type B units* shall be provided in Group I occupancies in accordance with Sections 1108.5.1 through 1108.5.5.

1108.5.1 Group I-1.
Accessible units and *Type B units* shall be provided in Group I-1 occupancies in accordance with Sections 1108.5.1.1 and 1108.5.1.3.

Revise as follows:

1108.5.1.1 Accessible units.
In Group I-1, Condition 1, at least 4 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*. *Accessible dwelling units* and *sleeping units* shall be dispersed among the various classes of units.

Exceptions:

1. Water closets shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2~~, in not more than 50 percent of the *Accessible units.*
2. Roll-in-type showers shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611.7 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.3~~, in not more than 50 percent of the *Accessible units*.

1108.5.1.2 Accessible units in Group I-1, Condition 2.
In Group I-1, Condition 2, at least 10 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*. *Accessible dwelling units* and *sleeping units* shall be dispersed among the various classes of units.

Exceptions:

1. Water closets shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2~~, in not more than 50 percent of the *Accessible units.*
2. Roll-in-type showers shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611.7 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.3~~, in not more than 50 percent of the *Accessible units*.

1108.5.1.3 Type B units.
In *structures* with four or more *dwelling units* or *sleeping units intended to be occupied as a residence* , every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1108.7.

1108.5.2 Group I-2 nursing homes.
Accessible units and *Type B units* shall be provided in *nursing homes* of Group I-2, Condition 1 occupancies in accordance with Sections 1108.5.2.1 and 1108.5.2.2.

Revise as follows:

1108.5.2.1 Accessible units.
At least 50 percent but not less than one of each type of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Exceptions:

1. Water closets shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2~~, in not more than 90 percent of the *Accessible units*.
2. Roll-in-type showers shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611.7 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.3~~, in not more than 90 percent of the *Accessible units.*

1108.5.2.2 Type B units.
In *structures* with four or more *dwelling units* or *sleeping units intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1108.7.

1108.5.3 Group I-2 hospitals.
Accessible units and *Type B units* shall be provided in general-purpose *hospitals*, psychiatric *facilities* and *detoxification facilities* of Group I-2 occupancies in accordance with Sections 1108.5.3.1 and 1108.5.3.2.

1108.5.3.1 Accessible units.
At least 10 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Exception: Entry doors to *Accessible dwelling units* or *sleeping units* shall not be required to provide the maneuvering clearance beyond the latch side of the door.

1108.5.3.2 Type B units.
In *structures* with four or more *dwelling units* or *sleeping units intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1108.7.

Revise as follows:

1108.5.4 Group I-2 rehabilitation facilities.
In *hospitals* and rehabilitation *facilities* of Group I-2 occupancies that specialize in treating conditions that affect mobility, or units within either that specialize in treating conditions that affect mobility, 100 percent of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Exceptions:

1. Water closets shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2~~, in not more than 50 percent of *Accessible units*.
2. Roll-in-type showers shall be permitted to comply with assisted toileting requirements in accordance with ICC A117.1 Section 611.7 ~~not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.3~~, in not more than 50 percent of *Accessible units*.

Delete without substitution:

~~**1110.2.2 Water closets designed for assisted toileting .**~~
~~Water closets designed for assisted toileting shall comply with Sections 1110.2.2.1 through 1110.2.2.6.~~

~~1110.2.2.1 Location.~~

~~The centerline of the water closet shall be not less than 24 inches (610 mm) and not greater than 26 inches (660 mm) from one side of the required clearance.~~

~~1110.2.2.2 Clearance.~~

~~Clearance around the water closet shall comply with Sections 1110.2.2.2.1 through 1110.2.2.2.3.~~

~~1110.2.2.2.1 Clearance width.~~

~~Clearance around a water closet shall be not less than 66 inches (1675 mm) in width, measured perpendicularly from the side of the clearance that is not less than 24 inches (610 mm) and not greater than 26 inches (660 mm) from the water closet centerline.~~

~~1110.2.2.2.2 Clearance depth.~~

~~Clearance around the water closet shall be not less than 78 inches (1980 mm) in depth, measured perpendicularly from the rear wall~~

~~1110.2.2.2.3 Clearance overlap.~~

~~The required clearance around the water closet shall permit overlaps per ICC A117.1, Section 604.3.3~~

~~1110.2.2.3 Height.~~

~~The height of the water closet seats shall comply with ICC A117.1, Section 604.4.~~

~~1110.2.2.4 Swing-up grab bars.~~

~~Swing-up grab bars shall comply with ICC A117.1, Sections 609.2 and 609.8. Swing-up grab bars shall be provided on both sides of the water closet and shall comply with all of the following:~~

1. ~~The centerline of the grab bar shall be not less than 14 inches (356 mm) and not greater than 16 inches (405 mm) from the centerline of the water closet.~~
2. ~~The length of the grab bar is not less than 36 inches (915 mm) in length, measured from the rear wall to the end of the grab bar.~~
3. ~~The top of the grab bar in the down position is not less than 30 inches (760 mm) and not greater than 34 inches (865 mm) above the floor.~~

~~1110.2.2.5 Flush controls.~~

~~Flush controls shall comply with ICC A117.1, Section 604.6.~~

~~1110.2.2.6 Dispensers.~~

~~Toilet paper dispensers shall be mounted on at least one of the swing-up grab bars and the outlet of the dispenser shall be located not less than 24 inches (610 mm) and not greater than 36 inches (915 mm) from the rear wall.~~

~~1110.2.3 Standard roll-in-type shower compartment designed for assisted bathing.~~

~~Standard roll-in-type shower compartments designed for assisted bathing shall comply with Sections 1110.2.3.1 through 1110.2.3.9.~~

~~1110.2.3.1 Size.~~

~~Standard roll-in-type shower compartments shall have a clear inside dimension of not less than 60 inches (1525 mm) in width and 30 inches (760 mm) in depth, measured at the center point of opposing sides. An entry not less than 60 inches (1525 mm) in width shall be provided.~~

~~1110.2.3.2 Clearance~~.

~~A clearance of not less than 60 inches (1525 mm) in length adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment, and not less than 30 inches (760 mm) in depth, shall be provided.~~

~~Exceptions:~~

1. ~~A lavatory complying with ICC A117.1, Section 606 shall be permitted at one end of the clearance.~~
2. ~~Where the shower compartment exceeds minimum sizes, the clear floor space shall be placed adjacent to the grab bars and not less than 30 inches (762 mm) from the back wall.~~

~~1110.2.3.3 Grab bars~~.

~~Grab bars shall comply with ICC A117.1, Section 609 and shall be provided in accordance with Sections 1110.2.3.3.1 and 1110.2.3.3.2. In standard roll-in-type shower compartments, grab bars shall be provided on three walls. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the floor. Grab bars can be separate bars or one continuous bar.~~

~~1110.2.3.3.1 Back-wall grab bar~~.

~~The back-wall grab bar shall extend the length of the back wall and extend within 6 inches (150 mm) maximum from the two adjacent sidewalls.~~

~~Exception:~~ ~~The back-wall grab bar shall not be required to exceed 48 inches (1220 mm) in length. The rear grab bar shall be located with one end within 6 inches maximum of a sidewall with a grab bar complying with Section 1110.2.3.3.2.~~

~~1110.2.3.3.2 Sidewall grab bars~~.

~~The sidewall grab bars shall extend the length of the wall and extend within 6 inches (150 mm) of the adjacent back wall.~~

~~Exceptions:~~

1. ~~The sidewall grab bar shall not be required to exceed 30 inches (760 mm) in length. The side grab bar shall be located with one end within 6 inches (152 mm) of the back wall with a grab bar complying with Section 1110.2.3.3.1.~~
2. ~~Where the sidewalls are located 72 inches (1830 mm) or greater apart, a grab bar is not required on one of the sidewalls.~~

~~1110.2.3.4 Seats~~.

~~Wall-mounted folding seats shall not be installed.~~

~~1110.2.3.5 Controls and hand showers~~.

~~In standard roll-in-type showers, the controls and hand shower shall be located not less than 38 inches (965 mm) and not greater than 48 inches (1220 mm) above the shower floor. Controls shall be located to facilitate caregiver access.~~

~~1110.2.3.6 Hand showers~~.

~~Hand showers shall comply with ICC A117.1, Section 608.5.~~

~~1110.2.3.7 Thresholds~~.

~~Thresholds shall comply with ICC A117.1, Section 608.6.~~

~~**1110.2.3.8 Shower enclosures.**~~
~~Shower compartment enclosures for shower compartments shall comply with ICC A117.1, Section 608.7.~~

~~**1110.2.3.9 Water temperature.**~~
~~Water temperature shall comply with ICC A117.1, Section 608.8.~~

Reason: The next edition of ICC A117.1 will include requirements for assisted toileting and bathing in Section 611. This proposal was 06-84-2021. Information can be viewed on the ICC A117.1 webpage at https://www.iccsafe.org/icc-asc-a117-1/. These provisions include several improvements to the text currently in the IBC. This section should be deleted from the IBC and reference the appropriate sections in the ICC A117.1.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These requirements are being replaced with similar requirements in the next edition of ICC A117.1. There scoping will remain the same for this option.

E122-24

E123-24

IBC: 1108.6.2

Proponents: Matt Lescher, CCI, self (mattl@codeconsultants.com); Jim Safranek, Safranek Group LLC, Self (jim@safranekgroup.com); Gene Boecker, CCI, self (geneb@codeconsultants.com); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

Revise as follows:

1108.6.2 Group R-2.
Accessible units, Type A units and *Type B units* shall be provided in Group R-2 occupancies in accordance with Sections 1108.6.2.1 through 1108.6.2.3. Where Group R-2 apartments will have dwelling units intended to also be Group R-1 occupancies, those units shall comply with Section 1108.6.1.

Reason: In the old days it was generally simple to distinguish the difference between an apartment building and a hotel building. However, in recent years as the demand for short term rentals has increased exponentially, many multifamily R-2 projects are being designed with a group of units where the intention is that they will be used for short term stays. In many instances, these units will be covered by the ADA and/or Fair Housing Act (FHA). One of the main objectives of Chapter 11 is to harmonize with the ADA and FHA requirements because the Building Official is charged with enforcing the IBC and does not otherwise have authority to enforce the ADA or FHA. There are many factors that must be considered when determining the application of the ADA and FHA, such as ownership, management, length of stays, etc., but we have attempted to provide some generalizations in order to simplify and capture some of the major concerns.

If these units will be available to be rented by the general public, it is likely that they will be covered by the ADA as transient lodging. Similar to hotels, this code change proposal requires compliance with the R-1 requirements of Section 1108.6.1. Accessible units will be required in accordance with Table 1108.6.1.1. Per Section 1108.6.1.2, the remaining units will be required to be Type B if they are intended to be occupied as a residence to meet the requirements of the Fair Housing Act (FHA), if these units will only function for short term stays, like a standard hotel, then the remaining units would not be Type B.

If these units will only be available as an amenity for residents and will not be available for rental by the general public, then it is unlikely that the ADA will apply to these units. However, the units will likely be covered by the FHA. While covered by the FHA, the FHA safe harbor documents do not state how they should be addressed. Requiring compliance with Section 1108.6.1 will cover this concern. Fully accessible units will be required per Table 1108.6.1.1 and the determination for Type B is whether or not these units are intended to be occupied as a residence.

In this proposal, the term apartment houses was used for consistency with the other applicable sections for R-2. As such, it is intended to cover both apartment houses and condominiums.

There will be times where there is no way to know how certain units will be used in the future. Therefore, designers, Building Officials, owners, and other interested parties, must use the best information available at that time when applying these requirements.

Another goal of this proposal is to avoid future litigation as these short term rentals are covered by the ADA and FHA and must provide accessibility to people with disabilities.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

In our opinion, this proposal is a clarification for how the requirements should be applied to short term rental units. These units do not function as standard apartment/condominium units and should be classified as R-1 units, not as R-2 where the occupancy is longer than 30 days.

E124-24

IBC: SECTION 202 (New), 1109.2

Proponents: Matt Lescher, CCI, self (mattl@codeconsultants.com); Jim Safranek, Safranek Group LLC, Self (jim@safranekgroup.com); Gene Boecker, CCI, self (geneb@codeconsultants.com)

2024 International Building Code

Add new definition as follows:

SOCIAL STAIRS. Tiered amphitheater style seating two or more rows high, used for assembly purposes, with an open interior or exterior stairway located on at least one side.

Revise as follows:

1109.2 Assembly area seating.

A *building*, room or space used for assembly purposes with *fixed seating, bleachers*, *social stairs, grandstands* or *folding and telescopic seating* shall comply with Sections 1109.2.1 through 1109.2.5. Lawn seating shall comply with Section 1109.2.6. Assistive listening systems shall comply with Section 1109.2.7. Performance areas viewed from assembly seating areas shall comply with Section 1109.2.8. Dining areas shall comply with Section 1109.2.9.

Exception: Social stairs with 300 seats or less shall be permitted to comply with the ICC A117.1 requirements for bleachers.

Reason: Social stairs are routinely being provided in K-12 schools, universities, multi-assembly buildings, and exterior areas. They appear to fall somewhere between stairways and small assembly seating. They also appear to be an open circulation element (a stairway) that has been expanded and repurposed to include small secondary areas that may function individually as discrete areas or may be utilized collectively as a singular assembly area. Refer to figures 1 through 3 for both interior and exterior examples of social stairs. Social stairs differ from typical bleachers because social stairs are permanent, building construction that connects two levels, and functions as primary circulation from one level to another level. Social stairs also differ from other assembly spaces because social stairs provide discreet spaces for a variety of uses, and the stairways function as a primary circulation element, from one level to another level.

The current accessibility scoping provisions do not appear to address the dispersion of wheelchair spaces in a small, multilevel assembly seating area such as that of the typical, social stairs. The proposal seeks clarify that social stairs should be treated as assembly seating and to apply the ICC/A117.1 requirements for bleachers to these areas, specifically Section 802.10.2 Exception 1:

In bleachers, wheelchair space locations provided only in rows at points of entry to bleacher seating shall be permitted.

There was a concern that people would try to apply this proposal for all assembly areas, even if they were not designed to be social stairs. This proposal addresses that concern by including a definition for social stair and also by limiting the application to 300 or less seats because most assembly areas that have this limited seating capacity would be allowed to use similar exceptions regarding vertical and horizontal dispersion.

The accessible wheelchair spaces are generally designed with cutouts at the top and/or bottom levels in order to achieve the required shoulder alignment. However, this proposal is only intended to address the scoping requirements for social stairs. The technical criteria should be included in future editions of the ICC/A117.1, if that committee determines special technical criteria is necessary.

Figure 1

Photograph courtesy of Bassetti Architects.

Figure 2

Photograph courtesy of the U.S. Access Board

Figure 3

Photograph courtesy of the U.S. Access Board

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Social stairs are assembly areas with tiered seating, so the IBC and ICC/A117.1 requirements for assembly areas were already applicable under the current editions. This proposal seeks to clarify how these requirements should be applied. If someone were to argue that these were not previously considered assembly areas, then I would counter that this proposal decreases the construction costs, because if they are not considered assembly seating, then the are not subject to the associated exceptions, and an accessible route would be required to each level.

E124-24

E125-24

IBC: 1109.2.8

Proponents: William Conner, Bill Conner Associates LLC, American Society of Theatre Consultants (bill@bcaworld.com); Marsha Mazz, United Spinal Association, United Spinal Association (mmazz@accessibility-services.com)

2024 International Building Code

Revise as follows:

1109.2.8 Performance areas. An *accessible route* shall directly connect the performance area to the assembly seating area where a *circulation path* directly connects a performance area to an assembly seating area. The location of the *accessible route* shall be in the same rooms and spaces as the *circulation path*. The audience's sightlines to the *accessible route* shall be comparable to the audience's sightlines to the *circulation path.* An *accessible route* shall be provided from performance areas to ancillary areas or *facilities* used by performers.

Reason: This is to clarify the requirement to "directly connect" in relation to the circulation path. This is overwhelmingly a school auditorium and stage issue, which of course represents the largest number of stages and auditoriums in the US . It is simply discriminatory to require someone using a wheelchair to have to leave the auditorium and be out of sight of the audience while the other person not using the wheelchair can simply go down the aisle and take a short flight of stairs to be on stage. Accessible routes which requiring exiting the auditorium and re-entering the stage and then having to get to the front of the stage is unacceptable. Unfortunately is is all too common among new schools being designed and constructed today.

The precise wording I proposed may not be the best, but the intent of "directly connect" must be better conveyed. If the intent is that its OK for the accessible route to require minutes instead of seconds, and for that person to be out of sight of the audience for some of the travel, and to enter backstage to end up in front of the presenter t receive the award, say that, but please be clear.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

While the design may vary, the directness and details and components of the accessible route all still remain in the project.

E126-24 Part I

IBC: SECTION 202 (New), 1110.2.1, 1110.2.1.1, 1110.2.1.2, 1110.2.1.3, 1110.2.1.4, 1110.2.1.5, 1110.2.1.6, 1110.4, 1110.4.1, 1110.4.2, 1112.3

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE PLUMBING/PRIVATE SEWAGE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Add new definition as follows:

ASSISTED BATHING.
A roll-in shower designed for adults who need assistance and configured to allow space to enable a care giver to assist.

ASSISTED TOILETING.
A water closet designed for adults who need assistance and configured to allow space to enable a care giver to assist.

FAMILY OR COMPANION BATHING ROOM. A room for toileting and bathing that provides privacy and designed for a family with children and for people with disabilities with a companion or assistant.

FAMILY OR COMPANION TOILET ROOM.
A toilet room that provides privacy and designed for a family with children and for people with disabilities with a companion or assistant.

Revise as follows:

1110.2.1 Family or ~~assisted-use~~ companion toilet and bathing rooms. In assembly and mercantile occupancies, an accessible family or ~~assisted-use~~ companion toilet room shall be provided where an aggregate of six or more male and female water closets is required. In *buildings* of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the family or ~~assisted-use~~ companion toilet room requirement. In recreational *facilities* where separate-sex bathing rooms are provided, an accessible family or ~~assisted-use~~ companion bathing room shall be provided. Fixtures located within family or ~~assisted-use~~ companion toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.

Exception: Where each separate-sex bathing room has only one shower or bathtub fixture, a family or ~~assisted-use~~ companion bathing room is not required.

1110.2.1.1 Standard.
Family or assisted-use toilet and bathing rooms shall comply with Sections 1110.2.1.2 through 1110.2.1.6.

Revise as follows:

1110.2.1.2 Family or ~~assisted-use~~ companion toilet rooms. Family or ~~assisted-use~~ companion toilet rooms shall include only one water closet and only one lavatory. A family or ~~assisted-use~~ companion bathing room in accordance with Section 1110.2.1.3 shall be considered to be a family or ~~assisted-use~~ companion toilet room.

Exception: The following additional plumbing fixtures shall be permitted in a family or ~~assisted-use~~ companion toilet room:

1. A urinal.
2. A child-height water closet.
3. A child-height lavatory.
4. An adult changing station also used for bathing.

1110.2.1.3 Family or ~~assisted-use~~ companion bathing rooms. Family or ~~assisted-use~~ companion bathing rooms shall include only one shower or bathtub fixture. Family or ~~assisted-use~~ companion bathing rooms shall also include one water closet and one lavatory. Where

storage *facilities* are provided for separate-sex bathing rooms, accessible storage *facilities* shall be provided for family or ~~assisted-use~~ companion bathing rooms.

1110.2.1.4 Location. Family or ~~assisted-use~~ companion toilet and bathing rooms shall be located on an *accessible route*. Family or ~~assisted-use~~ companion toilet rooms shall be located not more than one *story* above or below separate-sex toilet rooms. The *accessible route* from any separate-sex toilet room to a family or ~~assisted-use~~ companion toilet room shall not exceed 500 feet (152 m).

1110.2.1.5 Prohibited location. In passenger transportation *facilities* and airports, the *accessible route* from separate-sex toilet rooms to a family or ~~assisted-use~~ companion toilet room shall not pass through security checkpoints.

1110.2.1.6 Privacy.
Doors to family or ~~assisted-use~~ companion toilet and bathing rooms shall be securable from within the room and be provided with an "occupied" indicator.

1110.4 Adult changing stations.
Where provided, adult changing stations shall be accessible. Where required, adult changing stations shall be accessible and shall comply with Sections 1110.4.1 through 1110.4.4.

Revise as follows:

1110.4.1 Where required.
Not fewer than one adult changing station shall be provided in the following locations:

1. In assembly and mercantile occupancies, where family or ~~assisted-use~~ companion toilet or bathing rooms are required to comply with Section 1110.2.1.
2. In Group B occupancies providing educational *facilities* for students above the 12th grade, where an aggregate of 12 or more male and female water closets are required to serve the classrooms and lecture halls.
3. In Group E occupancies, where a room or space used for assembly purposes requires an aggregate of six or more male and female water closets for that room or space.
4. In highway rest stops and highway service plazas.

1110.4.2 Room.
Adult changing stations shall be located in toilet rooms that include only one water closet and only one lavatory. Fixtures located in such rooms shall be included in determining the number of fixtures provided in an occupancy. The occupants shall have access to the required adult changing station at all times that the associated occupancy is occupied.

Exception: Adult changing stations shall be permitted to be located in family or ~~assisted-use~~ companion toilet rooms required in Section 1110.2.1.

1112.3 Directional signage.
Directional signage indicating the route to the nearest like accessible element shall be provided at the following locations. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

1. Inaccessible *building* entrances.
2. Inaccessible public toilets and bathing *facilities*.
3. Elevators not serving an *accessible route*.
4. At each separate-sex toilet and bathing room indicating the location of the nearest family or companion ~~family/assisted-use~~ toilet or bathing room where provided in accordance with Section 1110.2.1.
5. At *exits* and *exit stairways* serving a required accessible space, but not providing an *approved accessible means of egress*, signage shall be provided in accordance with Section 1009.10.

6. Where drinking fountains for *persons* using wheelchairs and drinking fountains for standing *persons* are not located adjacent to each other, directional signage shall be provided indicating the location of the other drinking fountains.

E126-24 Part II

IBC: [P] 1210.3.2, [P] 2902.1.2, [P] 2902.3.6; IPC: SECTION 202 (New), 403.1.2, [BE] 403.3.6, 405.3.5

Proponents: Jeff Grove, Chair, Building Code Action Committee (BCAC) (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

[P] 1210.3.2 Urinal partitions.
Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single-occupant or family or ~~assisted-use~~ companion toilet room with a lockable door.
2. Toilet rooms located in child day care *facilities* and containing two or more urinals shall be permitted to have one urinal without partitions.

[P] 2902.1.2 Fixtures in single-user toilet facilities and bathing rooms. The plumbing fixtures located in single-user toilet *facilities* and single-user rooms, including family or ~~assisted-use~~ companion toilet *facilities* and bathing rooms, shall contribute toward the total number of required plumbing fixtures for a *building* or tenant space. The number of fixtures in single-user toilet *facilities*, single-user bathing rooms and family or ~~assisted-use~~ companion toilet *facilities* shall be deducted proportionately from the required gender ratios of Table 2902.1. Single-user toilet facilities and bathing rooms, and family or ~~assisted-use~~ companion toilet facilities and bathing rooms shall be identified as being available for use by all *persons* regardless of their sex. The total number of fixtures shall be based on the required number of separate *facilities* or based on the aggregate of any combination of single-user or separate *facilities*.

[P] 2902.3.6 Door locking.
Where a toilet facility is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or ~~assisted-use~~ companion toilet facilities.

Exception: The egress door of a multiple occupant toilet room shall be permitted to be lockable from inside the room where all the following criteria are met:

1. The egress door shall be lockable from the inside of the room only by authorized personnel by the use of a key or other *approved* means.
2. The egress door shall be readily openable from the toilet room in accordance with Section 1010.2.
3. The egress door shall be capable of being unlocked from outside the room with a key or other *approved* means.

2024 International Plumbing Code

Add new definition as follows:

ASSISTED BATHING.
A roll-in shower designed for adults who need assistance and configured to allow space to enable a care giver to assist.

ASSISTED TOILETING.
A water closet designed for adults who need assistance and configured to allow space to enable a care giver to assist.

FAMILY OR COMPANION BATHING ROOM.
A room for toileting and bathing that provides privacy and designed for a family with children and for people with disabilities with a

companion or assistant.

FAMILY OR COMPANION TOILET ROOM.
A toilet room that provides privacy and designed for a family with children and for people with disabilities with a companion or assistant.

Revise as follows:

403.1.2 Fixtures in single-user toilet facilities and bathing rooms.
The plumbing fixtures located in single-user toilet facilities and single-user bathing rooms, including family or assisted-use toilet facilities and bathing rooms, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. The number of fixtures in single-user toilet facilities, single-user bathing rooms and family or assisted-use toilet facilities shall be deducted proportionately from the required gender ratios of Table 403.1. Single-user toilet facilities and bathing rooms, and family or ~~assisted-use~~ companion toilet facilities and bathing rooms shall be identified as being available for use by all persons regardless of their sex.The total number of fixtures shall be based on the required number of separate facilities or based on the aggregate of any combination of single-user or multiple-user facilities.

403.3.6 Door locking.
Where a toilet facility is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or ~~assisted-use~~ companion toilet facilities.

Exception: The egress door of a multiple-occupant toilet room shall be permitted to be lockable from inside the room where all the following criteria are met:

1. The egress door shall be lockable from the inside of the room only by authorized personnel by the use of a key or other *approved* means.
2. The egress door shall be readily openable from the toilet room in accordance with *International Building Code* Section 1010.2.
3. The egress door shall be capable of being unlocked from outside the room with a key or other *approved* means.

405.3.5 Urinal partitions.
Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or ~~family/assisted-use~~ family or companion toilet room with a lockable door.
2. Toilet facilities located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

Reason: Both the family or assisted use bathrooms and assisted toileting and bathing options are needed in the code. This is not intended to change any technical requirements. However, the terminology is so close, it is causing confusion – especially when it comes to the options for the water closet and showers permitted in the family or assisted use toilet or bathroom. Do I have to use the water closet with two swing up grab bars or only a roll-in shower? That is not the intent. This change in terminology will clarify the options.

There will be a companion change to the IEBC in Group B.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the

committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification for where Section 1105.1 is intended to allow assisted use toilet and bathing rooms for Group I-1 and I-2 facilities (assisted living and nursing homes). The closeness of the terms is causing confusion with the requirements in family toilet rooms, especially with water closet requirements. This are not changed to construction requirements.

E126-24 Part II

E127-24 Part I

IBC: SECTION 202 (New), 1110.4.2, IAPMO (New)

Proponents: Misty Guard, Regulosity LLC, MAG Industries LLC (misty.guard@regulosity.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE PLUMBING/PRIVATE SEWAGE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Add new definition as follows:

ADULT CHANGING STATIONS. An *assistive table* and the associated maneuvering clearances.

ASSISTIVE TABLE. A product produced, generally available, or used by or for persons with a physical, or cognitive disability intended to facilitate and support personal care or hygiene with a changing surface to support a user in a reclined or lying position. Assistive Tables can be fixed or adjustable height and have integrated plumbing fittings and fixtures.

1110.4 Adult changing stations.
Where provided, adult changing stations shall be accessible. Where required, adult changing stations shall be accessible and shall comply with Sections 1110.4.1 through 1110.4.4.

1110.4.1 Where required.
Not fewer than one adult changing station shall be provided in the following locations:

1. In assembly and mercantile occupancies, where family or assisted-use toilet or bathing rooms are required to comply with Section 1110.2.1.
2. In Group B occupancies providing educational *facilities* for students above the 12th grade, where an aggregate of 12 or more male and female water closets are required to serve the classrooms and lecture halls.
3. In Group E occupancies, where a room or space used for assembly purposes requires an aggregate of six or more male and female water closets for that room or space.
4. In highway rest stops and highway service plazas.

Revise as follows:

1110.4.2 Room.
Adult changing stations shall be located in toilet rooms that include only one water closet and only one lavatory. The assistive tables shall comply with IAPMO Z1390. Fixtures located in such rooms shall be included in determining the number of fixtures provided in an occupancy. The occupants shall have access to the required adult changing station at all times that the associated occupancy is occupied.

Exception: Adult changing stations shall be permitted to be located in family or assisted toilet rooms required in Section 1110.2.1.

1110.4.3 Prohibited location.
The *accessible route* from separate-sex toilet or bathing rooms to an accessible adult changing station shall not require travel through security checkpoints.

1110.4.4 Travel distance.
The adult changing station shall be located on an *accessible route* such that a *person* is not more than two *stories* above or below the *story* with the adult changing station and the path of travel to such *facility* shall not exceed 2,000 feet (609.6 m).

Add new standard(s) as follows:

IAPMO Z1390-20XX Assistive Tables

IAPMO Z1390-20XX: Assistive Tables

Staff Analysis: A review of the standard proposed for inclusion in the code, IAPMO Z1390-20XX Assistive Tables, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

E127-24 Part I

E127-24 Part II

IPC: SECTION 202 (New), SECTION 427 (New), 427.1 (New), 427.1.1 (New), 427.1.2 (New), 427.1.3 (New), 427.1.4 (New), IAPMO (New)

Proponents: Misty Guard, Regulosity LLC, MAG Industries LLC (misty.guard@regulosity.com)

2024 International Plumbing Code

Add new definition as follows:

ADULT CHANGING STATIONS. An *assistive table* and the associated maneuvering clearances.

ASSISTIVE TABLE. A product produced, generally available, or used by or for persons with a physical, or cognitive disability intended to facilitate and support personal care or hygiene with a changing surface to support a user in a reclined or lying position. Assistive Tables can be fixed or adjustable height and have integrated plumbing fittings and fixtures.

Add new text as follows:

SECTION 427
ASSISTIVE TABLES

427.1 Adult changing stations.. Where provided, adult changing stations shall be accessible. Where required, adult changing stations shall be accessible and shall comply with Sections 427.1.1 through 427.1.4.

427.1.1
Where required
. Not fewer than one adult changing station shall be provided in the following locations:

1. In assembly and mercantile occupancies, where family or assisted-use toilet or bathing rooms are required to comply with Section 1110.2.1 of the International Building Code.
2. In Group B occupancies providing educational *facilities* for students above the 12th grade, where an aggregate of 12 or more male and female water closets are required to serve the classrooms and lecture halls.
3. In Group E occupancies, where a room or space used for assembly purposes requires an aggregate of six or more male and female water closets for that room or space.
4. In highway rest stops and highway service plazas.

427.1.2 Room. Adult changing stations shall be located in toilet rooms that include only one water closet and only one lavatory. The assistive tables shall comply with IAPMO Z1390. Fixtures located in such rooms shall be included in determining the number of fixtures provided in an occupancy. The occupants shall have access to the required adult changing station at all times that the associated occupancy is occupied.

Exception: Adult changing stations shall be permitted to be located in family or assisted toilet rooms required in Section 1110.2.1.

427.1.3 Prohibited location. The *accessible route* from separate-sex toilet or bathing rooms to an accessible adult changing station shall not require travel through security checkpoints.

427.1.4 Travel distance. The adult changing station shall be located on an *accessible route* such that a *person* is not more than two *stories* above or below the *story* with the adult changing station and the path of travel to such *facility* shall not exceed 2,000 feet (609.6 m).

IAPMO Z1390-20XX. Assistive Tables

Staff Analysis: A review of the standard proposed for inclusion in the code, IAPMO Z1390-20XX Assistive Tables, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

Reason: Assistive tables are plumbing products that facilitate and support the personal hygiene of individuals who are physically challenged, disabled, or elderly. While the assistive table is not a new product, the products are required in new commercial buildings and substantial renovations of existing bathrooms in Arkansas, Arizona, California, New Hampshire, and Pennsylvania. Massachusetts, Michigan, Minnesota, and Wisconsin have pending legislation for these products. A technical subcommittee of manufacturers, consultants, installers, and disability experts wrote the product performance and safety standard, IAPMO Z1390 Assistive Tables. IAPMO Z1390 covers 1) product design requirements for user weight, maximum loads, heights, operation, locking safety mechanisms, mechanical wear, cleaning and disinfection, changing surface, grab rails, safety restraint systems, electrical, support structure, integrated plumbing fittings, integrated plumbing fixtures, 2) performance requirements for height, vertical movement, locking mechanisms, changing surface tests, grab bars, support structures, waste fitting connections, and body part entrapment, 3) marking and signage requirements, and 4) installation documentation.

Bibliography: IAPMO Z1390 Assistive Tables

Cost Impact: Increase

Estimated Immediate Cost Impact:

This requirement will increase the cost of these products by requiring the product manufacturer to obtain testing through a testing laboratory and third-party certification. Laboratory testing and third-party certification fees for products typically range between $3,000 to $20,000. The increase in cost is offset by the benefits to public health and safety of products that conform to product safety and performance standards resulting in a reduction of harm to users.

Estimated Immediate Cost Impact Justification (methodology and variables):

This requirement will increase the cost of these products by requiring the product manufacturer to obtain testing through a testing laboratory and third-party certification. The increase in cost is offset by the benefits to public health and safety of products that conform to product safety and performance standards resulting in a reduction of harm to users.