CCC

2022 GROUP B PROPOSED CHANGES TO THE I-CODES ROCHESTER COMMITTEE ACTION HEARINGS

March 27 - April 6, 2022
Rochester Riverside Convention Center, Rochester, NY

ICC
INTERNATIONAL CODE COUNCIL®

2021-2022 Code Development Cycle, Group B (2022) Proposed Changes to the 2021 *International Codes*

First Printing

Publication Date: February 2022

PRINTED IN THE U.S.A.

CCCIBC1-22

IBC: 1512.2.1, 1512.2.1.1, 1512.3; IEBC: [BS] 705.2.1, [BS] 705.2.1.1, [BS] 705.3

Proponents: Marcin Pazera, representing Polyisocyanurate Insulation Manufacturers Association (mpazera@pima.org); Richard Justin Koscher, representing Polyisocyanurate Insulation Manufacturers Association (jkoscher@pima.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC STRUCTURAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-B CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

1512.3 ~~1512.2.1~~ Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.
2. Complete and separate roofing systems, such as standing-seam *metal roof panel* systems, that are designed to transmit the roof *loads* directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
3. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 1512.3.
4. The application of a new protective roof coating over an existing protective roof coating, *metal roof panel*, built-up roof, spray polyurethane foam roofing system, *metal roof shingles*, mineral-surfaced roll roofing, modified bitumen roofing or thermoset and thermoplastic single-ply roofing shall be permitted without tear off of existing roof coverings.

~~1512.2.1.1 Exceptions~~ Exception:. A *roof recover* shall not be permitted where any of the following conditions occur:

1. Where the existing roof or *roof covering* is water soaked or has deteriorated to the point that the existing roof or *roof covering* is not adequate as a base for additional roofing.
2. Where the existing *roof covering* is slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of *roof covering*.

1512.3.1 ~~1512.3~~ Roof recovering over wood shingles or shakes. Where the application of a new *roof covering* over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with *gypsum board*, mineral fiber, glass fiber or other *approved* materials securely fastened in place.

2021 International Existing Building Code

Revise as follows:

[BS] 705.3 ~~705.2.1~~ Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. The new roof covering is installed in accordance with the roof covering manufacturer's *approved* instructions.
2. Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, are installed.
3. Metal panel, metal shingle and concrete and clay tile roof coverings are installed over existing wood shake roofs in accordance with Section 705.3.
4. A new protective *roof coating* is applied over an existing protective *roof coating*, a metal roof panel, metal roof shingles, mineral-surfaced roll roofing, a built-up roof, modified bitumen roofing, thermoset and thermoplastic single-ply roofing or a spray polyurethane foam roofing system.

[BS] ~~705.2.1.1 Exceptions~~ Exception:. A roof recover shall not be permitted where any of the following conditions occur:

1. The existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. The existing roof covering is slate, clay, cement or asbestos-cement tile.
3. The existing roof has two or more applications of any type of roof covering.

[BS] 705.3.1 ~~705.3~~ Roof recovering over wood shingles or shakes. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other *approved* materials securely fastened in place.

Reason Statement: This proposal separates roof recover from roof replacement because the two reroofing activities are distinct and only one activity (recover or replacement) can occur on a project at one time. Roof recover is not a subset of roof replacement but a stand alone activity and it is important to recognize it as such. Furthermore, the proposal eliminates number section (1512.2.1.1) in front of exemption for consistency with other sections of the IBC. This proposal creates a sub-section (1512.3.1 Roof recovering over wood shingles or shakes) to ensure consistency with the format of the IBC. Finally, in the International Residential Code, the proposal harmonizes language in the title for consistency with IBC and IEBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code proposal addresses important formatting clarification and does not impact the cost of construction. This proposal does not create new requirements in Section 15 of the IBC.

CCCIBC1-22

CCCIRC1-22

IRC: TABLE R301.2

Proponents: Steven Orlowski, Sundowne Building Code Consultants, LLC, representing Self (sorlowski@sbcc.codes)

2021 International Residential Code

Revise as follows:

TABLE R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD[o]	WIND DESIGN				SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZIN INDEX[i]
	Speed[d] (mph)	Topographic effects[k]	Special wind region[l]	Windborne debris zone[m]		Weathering[a]	Frost line depth[b]	Termite[c]			
—	—	—	—	—	—	—	—	—	—	—	—
MANUAL J DESIGN CRITERIA[n]											
Elevation			Altitude correction factor[e]	Coincident wet bulb	Indoor winter design dry-bulb temperature	Indoor winter design dry-bulb temperature			Outdoor winter design dry-bulb temperture		**Heating**
—			—	—	—	—			—		
Latitude			Daily range	Summer design gains	Indoor summer design dry-bulb temperature	Indoor summer design dry-bulb temperature			Outdoor summer design dry-bulb temperature		Cooling
—			—	—	—	—			—		

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, “negligible,” “moderate” or “severe” for concrete as determined from Figure R301.2(1). The grade of masonry units shall be determined from ASTM C34, ASTM C55, ASTM C62, ASTM C73, ASTM C90, ASTM C129, ASTM C145, ASTM C216 or ASTM C652.

b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the ~~basic wind speed~~ ultimate design wind speeds map ~~[~~Figure R301.2(2). Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The jurisdiction shall fill in this section of the table to establish the design criteria using Table 10A from ACCA Manual J or established criteria determined by the jurisdiction.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with: the date of the jurisdiction’s entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas); and the title and date of the currently effective Flood Insurance Study or other flood hazard study and maps adopted by the authority having jurisdiction, as amended.

h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall fill in this part of the table with “NO.”

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table “Air Freezing Index-USA Method (Base 32°F).”

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table “Air Freezing Index-USA Method (Base 32°F).”

k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

l. In accordance with Figure R301.2(2), where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with “YES” and identify any specific requirements. Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.

o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figures R301.2(3) and R301.2(4).

Reason Statement: During the development of the 2015 IRC, Proposal RB39-13 was submitted to align the wind design provisions of the residential code with changes that were previously approved in the 2012 International Building Code and ASCE7-10. The change was submitted to remove all references to the term "basic wind speed" and update the IRC using the term "ultimate design wind speed". The proposal was approved as submitted and further revised during the public comment hearing, where additional public comment were approved to clean up additional references to the outdate terminology, not included in the original proposal. This proposal addresses one last clean up necessary in Footnote D of Table R301.2 which still uses the outdated term "basic wind speed" and replaces it with the correct term "ultimate design wind speed" as shown in Figure R301.2(2).

Bibliography: See RB39-13, Complete Revision History to the 2015 I-Codes: Successful Changes with Public Comments. First Printing: September 2014

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal is editorial in nature and does not introduce any new requirements to the IRC.

CCCIRC1-22

CCCIBC2-22

IBC: 1601.1

Proponents: John-Jozef Proczka, representing Self (john-jozef.proczka@phoenix.gov)

2021 International Building Code

Revise as follows:

1601.1 Scope. The provisions of this chapter shall govern the structural design of buildings, structures and portions thereof. ~~regulated by this code.~~

Reason Statement: Removes words that don't do anything. Will result in absolutely no changes besides a very slightly shorter code.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Nothing changes.

CCCIEBC2-22

IEBC: [BS] 502.2

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov); Gwenyth Searer, representing myself (gsearer@wje.com)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Delete without substitution:

~~**[BS] 502.2 Disproportionate earthquake damage.** A building assigned to Seismic Design Category D, E or F that has sustained *disproportionate earthquake damage* shall be subject to the requirements for buildings with *substantial structural damage* to vertical elements of the lateral force-resisting system.~~

Reason Statement: Reason (David Bonowitz, Kelly Cobeen, Michael Mahoney):
This proposal is essentially errata, but ICC staff have advised that for procedural reasons it would be better to do as a code change proposal.Current Section 502.2 is an extraneous provision that somehow was left in Chapter 5, even though it has nothing to do with Additions, and even though an identical provision exists, properly in Section 405.2.2.

Reason (Gwenyth Searer):

The provision in question deals with the repair of disproportionate earthquake damage. There is no plausible reason (at least that I can think of) for a provision regarding the repair of disproportionate earthquake damage to be located in Section 502, which deals with additions.

Repairs are dealt with in Chapter 4, and that chapter already has requirements for repairing disproportionate earthquake damage (i.e., Section 405.2.2).

Further, no similar requirements are contained in Chapter 11, which is part of the Work Area Compliance Method and also deals with additions.

In my nearly three decades of experience, I have never seen someone propose to construct an addition as a means of repairing any kind of damage.

This provision serves no purpose and should be deleted.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Cost Impact David Bonowitz, Kelly Cobeen, Michael Mahoney):

The proposal merely deletes an extraneous provision. The identical provision remains in Section 405.2.2.

Cost Impact (Gwenyth Searer):

This proposal deletes a superfluous, extraneous, unnecessary, and duplicative provision in the IEBC. Deletion of this provision will not affect the cost of construction because there already exists an identical provision in Chapter 4.

CCCIEBC3-22

IEBC: CHAPTER 13

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

CHAPTER 13
PERFORMANCE COMPLIANCE METHODS

SECTION 1301
GENERAL

1301.1 Scope. The provisions of this chapter shall apply to the *alteration*, *addition* and *change of occupancy* of *existing structures*, including historic structures, as referenced in Section 301.3.3. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in *existing buildings* while permitting, *alteration*, *addition* and *change of occupancy* without requiring full compliance with Chapters 6 through 12, except where compliance with the prescriptive method of Chapter 5 or the work area method of other provisions of this code is specifically required in this chapter.

1301.1.1 Compliance with other methods. *Alterations*, *additions* and *changes of occupancy* to *existing structures* shall comply with the provisions of this chapter or with one of the methods provided in Section 301.3.

Add new text as follows:

SECTION 1302
APPLICABILITY

Revise as follows:

~~1301.2~~ **1302.1 Applicability.** *Existing buildings* in which there is work involving *additions*, *alterations* or *changes of occupancy* shall be made to conform to the requirements of this chapter or the provisions of Chapters 6 through 12. The provisions of Sections ~~1301.2.1~~ 1302.1.1 through ~~1301.2.6~~ 1302.1.6 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall also apply to Group U occupancies where such occupancies are undergoing a *change of occupancy* or a partial change in occupancy with separations in accordance with Section ~~1301.2.2~~ 1302.1.2. These provisions shall not apply to buildings with occupancies in Group H, I-1, I-3 or I-4.

~~1301.2.1~~ **1302.1.1 Change in occupancy.** Where an *existing building* is changed to a new occupancy classification and this section is applicable, the provisions of this section for the new occupancy shall be used to determine compliance with this code.

~~1301.2.2~~ **1302.1.2 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification and that portion is separated from the remainder of the building with fire barrier or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the International Building Code or Section R302 of the International Residential Code for the separate occupancies, or with *approved* compliance alternatives, the portion changed shall be made to conform to the provisions of this section. Only the portion separated shall be required to be evaluated for compliance.

Where a portion of the building is changed to a new occupancy classification and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the International Building Code or Section R302 of the International Residential Code for the separate occupancies, or with *approved* compliance alternatives, the provisions of this section which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which secure the greater public safety shall apply to the entire building or structure.

~~1301.2.3~~ **1302.1.3 Additions.** *Additions* to *existing buildings* shall comply with the requirements of the *International Building Code* or the *International Residential Code* for new construction. The combined height and area of the *existing building* and the new *addition* shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the *addition* and the *existing building*, the *addition* shall be considered a separate building.

~~1301.2.4~~ **1302.1.4 Alterations.** An *existing building* or portion thereof shall not be altered in such a manner that results in the building being less safe or sanitary than such building is currently.

Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the *International Building Code*.

~~1301.2.5~~ **1302.1.5 Escalators.** Where escalators are provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

~~1301.2.6~~ **1302.1.6 Plumbing fixtures.** Plumbing fixtures shall be provided in accordance with Section 1009 for a change of occupancy and Section

808 for *alterations*. Plumbing fixtures for *additions* shall be in accordance with the International Plumbing Code.

Add new text as follows:

SECTION 1303
ACCEPTANCE

Revise as follows:

~~1301.3~~ **1303.1 Acceptance.** For *repairs*, *alterations*, *additions* and *changes of occupancy* to *existing buildings* that are evaluated in accordance with this section, compliance with this section shall be accepted by the *code official*.

~~1301.3.1~~ **1303.1.1 Hazards.** Where the *code official* determines that an *unsafe* condition exists as provided for in Section 115, such *unsafe* condition shall be abated in accordance with Section 115.

~~1301.3.2~~ **1303.1.2 Compliance with other codes.** Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and *International Property Maintenance Code*.

[BS] ~~1301.3.3~~ **1303.1.3 Compliance with flood hazard provisions.** In *flood hazard areas*, buildings that are evaluated in accordance with this section shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable, if the work covered by this section constitutes *substantial improvement*.

Add new text as follows:

SECTION 1304
INVESTIGATION AND EVALUATION

Revise as follows:

~~1301.4~~ **1304.1 Investigation and evaluation.** For proposed work covered by this chapter, the building owner shall cause the *existing building* to be investigated and evaluated in accordance with the provisions of Sections ~~1301.4~~ 1304 through ~~1301.9~~ 1307.

[BS] ~~1301.4.1~~ **1304.1.1 Structural analysis.** The owner shall have a structural analysis of the *existing building* made to determine adequacy of structural systems for the proposed *alteration*, *addition* or *change of occupancy*. The analysis shall demonstrate that the building with the work completed is capable of resisting the loads specified in Chapter 16 of the International Building Code.

~~1301.4.2~~ **1304.1.2 Submittal.** The results of the investigation and evaluation as required in Section ~~1301.4~~ 1304.1, along with proposed compliance alternatives, shall be submitted to the *code official*.

~~1301.4.3~~ **1304.1.3 Determination of compliance.** The *code official* shall determine whether the *existing building*, with the proposed *addition*, *alteration* or *change of occupancy*, complies with the provisions of this section in accordance with the evaluation process in Sections ~~1301.5~~ 1305 through ~~1301.9~~ 1307.

Add new text as follows:

SECTION 1305
SCORING AND EVALUATION

Revise as follows:

~~1301.5~~ **1305.1 Evaluation.** The evaluation shall be composed of three categories: fire safety, means of egress and general safety, as defined in Sections ~~1301.5.1~~ 1305.1.1 through ~~1301.5.3~~ 1305.1.3 .

~~1301.5.1~~ **1305.1.1 Fire safety.** Included within the fire safety category are the structural fire resistance, automatic fire detection, fire alarm, automatic sprinkler system and fire suppression system features of the *facility*.

~~1301.5.2~~ **1305.1.2 Means of egress.** Included within the means of egress category are the configuration, characteristics and support features for means of egress in the *facility*.

~~1301.5.3~~ **1305.1.3 General safety.** Included within the general safety category are the fire safety parameters and the means of egress parameters.

~~1301.6~~ **1305.2 Evaluation process.** The evaluation process specified herein shall be followed in its entirety to evaluate *existing buildings* in Groups A, B, E, F, M, R, S and U. For *existing buildings* in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table ~~1301.7~~ 1306.1 shall be utilized for tabulating the results of the evaluation. References to other sections of this code or other codes indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the score for each occupancy shall be determined, and the lower score determined for each section of the evaluation

process shall apply to the entire building or to each smoke compartment for Group I-2 occupancies.
Where the separation between the mixed occupancies qualifies for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the score for each occupancy shall apply to each portion or smoke compartment of the building based on the occupancy of the space.

~~1301.6.1~~ 1305.2.1 Building height and number of stories. The value for building height and number of stories shall be the lesser value determined by the formula in Section ~~1301.6.1.1~~ 1305.2.1.1. Section 504 of the International Building Code shall be used to determine the allowable height and number of stories of the building. Subtract the actual building height from the allowable height and divide by $12^1/_2$ feet (3810 mm). Enter the height value and its sign (positive or negative) in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.1~~ 1305.2.1, Building Height, for fire safety, means of egress and general safety. The maximum score for a building shall be 10.

~~1301.6.1.1~~ 1305.2.1.1 Height formula. The following formulas shall be used in computing the building height value.

$$\text{Height value, feet} = \frac{(AH) - (EBH)}{12.5} \times CF \qquad \textbf{(Equation 13-1)}$$

$$\text{Height value, stories} = (AS - EBS) \times CF \qquad \textbf{(Equation 13-2)}$$

where:

AH = Allowable height in feet (mm) from Section 504 of the International Building Code.

EBH = *Existing building* height in feet (mm).

AS = Allowable height in stories from Section 504 of the International Building Code.

EBS = *Existing building* height in stories.

CF = 1 if (*AH*) – (*EBH*) is positive.

CF = Construction-type factor shown in Table ~~1301.6.6(2)~~ 1305.2.6(2) if (*AH*) – (*EBH*) is negative.

Note: Where mixed occupancies are separated and individually evaluated as indicated in Section ~~1301.6~~ 1305.2, the values *AH*, *AS*, *EBH* and *EBS* shall be based on the height of the occupancy being evaluated.

~~1301.6.2~~ 1305.2.2 Building area. The value for building area shall be determined by the formula in Section ~~1301.6.2.2~~ 1305.2.2.2. Section 506 of the International Building Code and the formula in Section ~~1301.6.2.1~~ 1305.2.2.1 shall be used to determine the allowable area of the building. Enter the area value and its sign (positive or negative) in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.2~~ 1305.2.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table ~~1301.8~~ 1306.2
, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero.

~~1301.6.2.1~~ 1305.2.2.1 Allowable area formula. The following formula shall be used in computing allowable area:

$$A_a = A_t + (NS \times I_f) \qquad \textbf{(Equation 13-3)}$$

where:

A_a = Allowable building area per story (square feet).

A_t = Tabular allowable area factor (NS, S1, S13R, or SM value, as applicable) in accordance with Table 506.2 of the International Building Code.

NS = Tabular allowable area factor in accordance with Table 506.2 of the International Building Code for a nonsprinklered building (regardless of whether the building is sprinklered).

I_f = Area factor increase due to frontage as calculated in accordance with Section 506.3 of the International Building Code.

~~1301.6.2.2~~ 1305.2.2.2 Area formula. The following formulas shall be used in computing the area value. Equation 13-4 shall be used for a single occupancy buildings and Equation 13-5 shall be used for multiple occupancy buildings. Determine the area value for each occupancy floor area on a floor-by-floor basis. For multiple occupancy, buildings with the minimum area value of the set of values obtained for the particular occupancy shall be used as the area value for that occupancy.
For single occupancy buildings:

$$\text{Area value}_i = (\text{Allowable area} - \text{Actual area})/1200 \text{ square feet} \qquad \textbf{(Equation 13-4)}$$

For multiple occupancy buildings:

$$\text{Area value}_i = \frac{\text{Allowable area}_i}{1200 \text{ square feet}}\left[1 - \left(\frac{\text{Actual area}_i}{\text{Allowable area}_i} + \ldots + \frac{\text{Actual area}_n}{\text{Allowable area}_n}\right)\right] \qquad \textbf{(Equation 13-5)}$$

where:

i = Value for an individual separated occupancy on a floor.

n = Number of separated occupancies on a floor.

~~1301.6.3~~ **1305.2.3 Compartmentation.** Evaluate the compartments created by fire barriers or horizontal assemblies which comply with Sections ~~1301.6.3.2~~ 1305.2.3.2 and ~~1301.6.3.3~~ 1305.2.3.3 and which are exclusive of the wall elements considered under Sections ~~1301.6.4~~ 1305.2.4 and ~~1301.6.5~~ 1305.2.5. Conforming compartments shall be figured as the net area and do not include shafts, chases, stairways, walls or columns. Using Table ~~1301.6.3~~ 1305.2.3, determine the appropriate compartmentation value (CV) and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.3~~ 1305.2.3, Compartmentation, for fire safety, means of egress and general safety.

TABLE ~~1301.6.3~~ 1305.2.3 COMPARTMENTATION VALUES

OCCUPANCY	CATEGORIES[a]				
	a	b	c	d	e
A-1, A-3	0	6	10	14	18
A-2	0	4	10	14	18
A-4, B, E, S-2	0	5	10	15	20
F, M, R, S-1	0	4	10	16	22
I-2	0	2	8	10	14

a. For compartment sizes between categories, the compartmentation value shall be obtained by linear interpolation.

~~1301.6.3.1~~ **1305.2.3.1 Categories.** The categories for compartment separations are:

1. Category a—Compartment size of 15,000 square feet (1394 m^2) or more.
2. Category b—Maximum compartment size of 10,000 square feet (929 m^2).
3. Category c—Maximum compartment size of 7,500 square feet (697 m^2).
4. Category d—Maximum compartment size of 5,000 square feet (464 m^2).
5. Category e—Maximum compartment size of 2,500 square feet (232 m^2).

~~1301.6.3.2~~ **1305.2.3.2 Wall construction.** A wall used to create separate compartments shall be a fire barrier conforming to Section 707 of the International Building Code with a fire-resistance rating of not less than 2 hours. Where the building is not divided into more than one compartment, the compartment size shall be taken as the total floor area on all floors. Where there is more than one compartment within a story, each compartmented area on such story shall be provided with a horizontal exit conforming to Section 1026 of the International Building Code. The fire door serving as the horizontal exit between compartments shall be so installed, fitted and gasketed that such fire door will provide a substantial barrier to the passage of smoke.

~~1301.6.3.3~~ **1305.2.3.3 Floor/ceiling construction.** A floor/ceiling assembly used to create compartments shall conform to Section 711 of the International Building Code and shall have a fire-resistance rating of not less than 2 hours.

~~1301.6.4~~ **1305.2.4 Tenant and dwelling unit separations.** Evaluate the fire-resistance rating of floors and walls separating tenants, including dwelling units, and not evaluated under Sections ~~1301.6.3~~ 1305.2.3 and ~~1301.6.5~~ 1305.2.5. Group I-2 occupancies shall evaluate the rating of the separations between care recipient sleeping rooms.
Under the categories and occupancies in Table ~~1301.6.4~~ 1305.2.4, determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.4~~ 1305.2.4, Tenant and Dwelling Unit Separation, for fire safety, means of egress and general safety. The value shall be zero for single tenant buildings and buildings without dwelling units.

TABLE ~~1301.6.4~~ 1305.2.4 SEPARATION VALUES

OCCUPANCY	CATEGORIES				
	a	b	c	d	e
A-1	0	0	0	0	1
A-2	-5	-3	0	1	3
R	-4	-2	0	2	4
A-3, A-4, B, E, F, M, S-1	-4	-3	0	2	4
I-2	0	1	2	3	4
S-2	-5	-2	0	2	4

~~1301.6.4.1~~ 1305.2.4.1 Categories. The categories for tenant and dwelling unit separations are:

1. Category a—No fire partitions; incomplete fire partitions; no doors; doors not self-closing or automatic-closing.
2. Category b—Fire partitions or floor assemblies with less than 1-hour fire-resistance ratings or not constructed in accordance with Section 708 or 711 of the International Building Code, respectively.
3. Category c—Fire partitions with 1-hour or greater fire-resistance ratings constructed in accordance with Section 708 of the International Building Code and floor assemblies with 1-hour but less than 2-hour fire-resistance ratings constructed in accordance with Section 711 of the International Building Code or with only one tenant within the floor area.
4. Category d—Fire barriers with 1-hour but less than 2-hour fire-resistance ratings constructed in accordance with Section 707 of the International Building Code and floor assemblies with 2-hour or greater fire-resistance ratings constructed in accordance with Section 711 of the International Building Code.
5. Category e—Fire barriers and floor assemblies with 2-hour or greater fire-resistance ratings and constructed in accordance with Sections 707 and 711 of the International Building Code, respectively.

~~1301.6.5~~ 1305.2.5 Corridor walls. Evaluate the fire-resistance rating and degree of completeness of walls which create corridors serving the floor and that are constructed in accordance with Section 1020 of the International Building Code. This evaluation shall not include the wall elements considered under Sections ~~1301.6.3~~ 1305.2.3 and ~~1301.6.4~~ 1305.2.4. Under the categories and groups in Table ~~1301.6.5~~ 1305.2.5, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.5~~ 1305.2.5, Corridor Walls, for fire safety, means of egress and general safety.

TABLE ~~1301.6.5~~ 1305.2.5 CORRIDOR WALL VALUES

OCCUPANCY	CATEGORIES			
	a	b	c[a]	d[a]
A-1	-10	-4	0	2
A-2	-30	-12	0	2
A-3, F, M, R, S-1	-7	-3	0	2
A-4, B, E, S-2	-5	-2	0	5
I-2	-10	0	1	2

a. Corridors not providing at least one-half the exit access travel distance for all occupants on a floor shall use Category b.

~~1301.6.5.1~~ 1305.2.5.1 Categories. The categories for corridor walls are:

1. Category a—No fire partitions; incomplete fire partitions; no doors; or doors not self-closing.
2. Category b—Less than 1-hour fire-resistance rating or not constructed in accordance with Section 708.4 of the International Building Code.
3. Category c—1-hour to less than 2-hour fire-resistance rating, with doors conforming to Section 716 of the International Building Code or corridors as permitted by Section 1020 of the International Building Codeto be without a fire-resistance rating.
4. Category d—2-hour or greater fire-resistance rating, with doors conforming to Section 716 of the International Building Code.

~~1301.6.6~~ 1305.2.6 Vertical openings. Evaluate the fire-resistance rating of interior exit stairways or ramps, hoistways, escalator openings and other shaft enclosures within the building, and openings between two or more floors. Table ~~1301.6.6(1)~~ 1305.2.6(1) contains the appropriate protection values. Multiply that value by the construction-type factor found in Table ~~1301.6.6(2)~~ 1305.2.6(2). Enter the vertical opening value and its sign (positive or negative) in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.6~~ 1305.2.6, Vertical Openings, for fire safety, means of egress and general safety. If the structure is a one-story building or if all the unenclosed vertical openings within the building conform to the requirements of Section 712 of the *International Building Code*, enter a value of 2. The maximum positive value for this requirement (VO) shall be 2.

TABLE ~~1301.6.6(1)~~ 1305.2.6(1) VERTICAL OPENING PROTECTION VALUE

PROTECTION	VALUE
None (unprotected opening)	-2 times number of floors connected
Less than 1 hour	-1 times number of floors connected
1 to less than 2 hours	1
2 hours or more	2

TABLE ~~1301.6.6(2)~~ 1305.2.6(2) CONSTRUCTION-TYPE FACTOR

FACTOR	TYPE OF CONSTRUCTION								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
	1.2	1.5	2.2	3.5	2.5	3.5	2.3	3.3	7

~~1301.6.6.1~~ 1305.2.6.1 Vertical opening formula. The following formula shall be used in computing vertical opening value.

$$VO = PV \times CF$$ **(Equation 13-6)**

where:

VO = Vertical opening value. The calculated value shall not be greater than positive 2.0.

PV = Protection value from Table 1301.6.6(1).

CF = Construction-type factor from Table 1301.6.6(2).

~~1301.6.7~~ 1305.2.7 HVAC systems. Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section ~~1301.6.7.1~~ 1305.2.7.1, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.7~~ 1305.2.7, HVAC Systems, for fire safety, means of egress and general safety. *Facilities* in Group I-2 occupancies meeting Category a, b or c shall be considered to fail the evaluation.

~~1301.6.7.1~~ 1305.2.7.1 Categories. The categories for HVAC systems are:

1. Category a—Plenums not in accordance with Section 602 of the International Mechanical Code. -10 points.
2. Category b—Air movement in egress elements not in accordance with Section 1020.6 of the International Building Code. -5 points.
3. Category c—Both Categories a and b are applicable. -15 points.
4. Category d—Compliance of the HVAC system with Section 1020.6 of the International Building Code and Section 602 of the International Mechanical Code. 0 points.
5. Category e—Systems serving one story; or a central boiler/chiller system without ductwork connecting two or more stories or where systems have no ductwork. +5 points.

~~1301.6.8~~ 1305.2.8 Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of automatic fire detectors in accordance with the International Mechanical Code and Section 907 of the International Building Code. Under the categories and occupancies in Table ~~1301.6.8~~ 1305.2.8, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.8~~ 1305.2.8, Automatic Fire Detection, for fire safety, means of egress and general safety. *Facilities* in Group I-2 occupancies meeting Category a, b or c shall be considered to fail the evaluation.

TABLE ~~1301.6.8~~ 1305.2.8 AUTOMATIC FIRE DETECTION VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-10	-5	0	2	6	NA
A-2	-25	-5	0	5	9	NA
A-4, B, E, S-2	-4	-2	0	4	8	NA
I-2	NP	NP	NP	4	5	2

NA = Not Applicable.

NP = Not Permitted.

~~1301.6.8.1~~ 1305.2.8.1 Categories. The categories for automatic fire detection are:

1. Category a—None.
2. Category b—Existing smoke detectors in HVAC systems and maintained in accordance with the *International Fire Code*.
3. Category c—Smoke detectors in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—Smoke detectors throughout all floor areas other than individual sleeping units, tenant spaces and dwelling units.
5. Category e—Smoke detectors installed throughout the floor area.
6. Category f—Smoke detectors in corridors only.

~~1301.6.9~~ 1305.2.9 Fire alarm systems. Evaluate the capability of the fire alarm system in accordance with Section 907 of the International Building Code. Under the categories and occupancies in Table ~~1301.6.9~~ 1305.2.9, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.9~~ 1305.2.9, Fire Alarm System, for fire safety, means of egress and general safety.

TABLE ~~1301.6.9~~ 1305.2.9 FIRE ALARM SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a	b[a]	c	d
A-1, A-2, A-3, A-4, B, E, R	-10	-5	0	5
F, M, S	0	5	10	15
I-2	-4	1	2	5

a. For buildings equipped throughout with an automatic sprinkler system, add 2 points for activation by a sprinkler water-flow device.

~~1301.6.9.1~~ 1305.2.9.1 Categories. The categories for fire alarm systems are:

1. Category a—None.
2. Category b—Fire alarm system with manual fire alarm boxes in accordance with Section 907.4 of the International Building Code and alarm notification appliances in accordance with Section 907.5.2 of the International Building Code.
3. Category c—Fire alarm system in accordance with Section 907 of the International Building Code.
4. Category d—Category c plus a required emergency voice/alarm communications system and a fire command station that conforms to Section 911 of the International Building Code and contains the emergency voice/alarm communications system controls, fire department communication system controls, and any other controls specified in Section 911 of the International Building Code where those systems are provided.

~~1301.6.10~~ 1305.2.10 Smoke control. Evaluate the ability of a natural or mechanical venting, exhaust or pressurization system to control the movement of smoke from a fire. Under the categories and occupancies in Table ~~1301.6.10~~ 1305.2.10, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.10~~ 1305.2.10, Smoke Control, for means of egress and general safety.

TABLE ~~1301.6.10~~ 1305.2.10 SMOKE CONTROL VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-2, A-3	0	1	2	3	6	6
A-4, E	0	0	0	1	3	5
B, M, R	0	2[a]	3[a]	3[a]	3[a]	4[a]
F, S	0	2[a]	2[a]	3[a]	3[a]	3[a]
I-2	-4	0	0	0	3	0

a. This value shall be 0 if compliance with Category d or e in Section ~~1301.6.8.1~~ 1305.2.8.1 has not been obtained.

~~1301.6.10.1~~ 1305.2.10.1 Categories. The categories for smoke control are:

1. Category a—None.
2. Category b—The building is equipped throughout with an automatic sprinkler system. Openings are provided in exterior walls at the rate of 20 square feet (1.86 m^2) per 50 linear feet (15 240 mm) of exterior wall in each story and distributed around the building perimeter at intervals not exceeding 50 feet (15 240 mm). Such openings shall be readily openable from the inside without a key or separate tool and shall be provided with ready access thereto. In lieu of operable openings, clearly and permanently marked tempered glass panels shall be used.
3. Category c—One enclosed exit stairway, with ready access thereto, from each occupied floor of the building. The stairway has operable exterior windows, and the building has openings in accordance with Category b.
4. Category d—One smokeproof enclosure and the building has openings in accordance with Category b.
5. Category e—The building is equipped throughout with an automatic sprinkler system. Each floor area is provided with a mechanical air-handling system designed to accomplish smoke containment. Return and exhaust air shall be moved directly to the outside without recirculation to other floor areas of the building under fire conditions. The system shall exhaust not less than six air changes per hour from the floor area. Supply air by mechanical means to the floor area is not required. Containment of smoke shall be considered as confining smoke to the floor area involved without migration to other floor areas. Any other tested and *approved* design that will adequately accomplish smoke containment is permitted.
6. Category f—Each stairway shall be one of the following: a smokeproof enclosure in accordance with Section 1023.12 of the International Building Code; pressurized in accordance with Section 909.20.5 of the International Building Code; or shall have operable exterior windows.

~~1301.6.11~~ 1305.2.11 Means of egress capacity and number. Evaluate the means of egress capacity and the number of exits available to the building occupants. In applying this section, the means of egress are required to conform to the following sections of the International Building Code: 1003.7, 1004, 1005, 1006, 1007, 1016.2, 1026.1, 1028.3, 1028.5, 1030.2, 1030.3, 1030.4 and 1031. The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the means of egress when conforming to Section 504.
Under the categories and occupancies in Table ~~1301.6.11~~ 1305.2.11, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.11~~ 1305.2.11, Means of Egress Capacity, for means of egress and general safety.

TABLE ~~1301.6.11~~ 1305.2.11 MEANS OF EGRESS VALUES

OCCUPANCY	CATEGORIES				
	a[a]	b	c	d	e
A-1, A-2, A-3, A-4, E, I-2	-10	0	2	8	10
M	-3	0	1	2	4
B, F, S	-1	0	0	0	0
R	-3	0	0	0	0

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

~~1301.6.11.1~~ 1305.2.11.1 Categories. The categories for means-of-egress capacity and number of exits are:

1. Category a—Compliance with the minimum required means-of-egress capacity or number of exits is achieved through the use of a fire escape in accordance with Section 405.
2. Category b—Capacity of the means of egress complies with Section 1005 of the International Building Code, and the number of exits complies with the minimum number required by Section 1006 of the International Building Code.
3. Category c—Capacity of the means of egress is equal to or exceeds 125 percent of the required means-of-egress capacity, the means of egress complies with the minimum required width dimensions specified in the *International Building Code*, and the number of exits complies with the minimum number required by Section 1006 of the International Building Code.
4. Category d—The number of exits provided exceeds the number of exits required by Section 1006 of the International Building Code. Exits shall be located a distance apart from each other equal to not less than that specified in Section 1007 of the International Building Code.
5. Category e—The area being evaluated meets both Categories c and d.

~~1301.6.12~~ 1305.2.12 Dead ends. In spaces required to be served by more than one means of egress, evaluate the length of the exit access travel path in which the building occupants are confined to a single path of travel. Under the categories and occupancies in Table ~~1301.6.12~~ 1305.2.12, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.12~~ 1305.2.12, Dead Ends, for means of egress and general safety.

TABLE ~~1301.6.12~~ 1305.2.12 DEAD-END VALUES

OCCUPANCY	CATEGORIES[a]			
	a	b	c	d
A-1, A-3, A-4, B, F, M, R, S	-2	0	2	-4
A-2, E	-2	0	2	-4
I-2	-2	0	2	-6

a. For dead-end distances between categories, the dead-end value shall be obtained by linear interpolation.

~~1301.6.12.1~~ 1305.2.12.1 Categories. The categories for dead ends are:

1. Category a—Dead end of 35 feet (10 670 mm) in nonsprinklered buildings or 70 feet (21 340 mm) in sprinklered buildings.
2. Category b—Dead end of 20 feet (6096 mm); or 50 feet (15 240 mm) in Group B in accordance with Section 1020.5, Exception 2, of the International Building Code.
3. Category c—No dead ends; or ratio of length to width (l/w) is less than 2.5:1.
4. Category d—Dead ends exceeding Category a.

~~1301.6.13~~ 1305.2.13 Maximum exit access travel distance to an exit. Evaluate the length of exit access travel to an *approved* exit. Determine the appropriate points in accordance with the following equation and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.13~~ 1305.2.13, Maximum Exit Access Travel Distance for means of egress and general safety. The maximum allowable exit access travel distance shall be determined in accordance with Section 1017.1 of the International Building Code.

$$\text{Points} = 20 \times \frac{\text{Maximum allowable travel distance} - \text{Maximum actual travel distance}}{\text{Maximum allowable travel distance}}$$ **(Equation 13-7)**

~~1301.6.14~~ 1305.2.14 Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Emergency recall and in-car operation of elevators shall be provided in accordance with the *International Fire Code*. Under the categories and occupancies in Table ~~1301.6.14~~ 1305.2.14, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.14~~ 1305.2.14, Elevator Control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

TABLE ~~1301.6.14~~ 1305.2.14 ELEVATOR CONTROL VALUES

ELEVATOR TRAVEL	CATEGORIES			
	a	b	c	d
Less than 25 feet of travel above or below the primary level of elevator access for emergency fire-fighting or rescue personnel	-2	0	0	+2
Travel of 25 feet or more above or below the primary level of elevator access for emergency fire-fighting or rescue personnel	-4	NP	0	+4

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

~~1301.6.14.1~~ 1305.2.14.1 Categories. The categories for elevator controls are:

1. Category a—No elevator.
2. Category b—Any elevator without Phase I emergency recall operation and Phase II emergency in-car operation.
3. Category c—All elevators with Phase I emergency recall operation and Phase II emergency in-car operation as required by the *International Fire Code*.
4. Category d—All meet Category c; or Category b where permitted to be without Phase I emergency recall operation and Phase II emergency in-car operation; and at least one elevator that complies with new construction requirements serves all occupied floors.

~~1301.6.15~~ 1305.2.15 Means of egress emergency lighting. Evaluate the presence of and reliability of means of egress emergency lighting. Under the categories and occupancies in Table ~~1301.6.15~~ 1305.2.15, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.15~~ 1305.2.15, Means of Egress Emergency Lighting, for means of egress and general safety.

TABLE ~~1301.6.15~~ 1305.2.15 MEANS OF EGRESS EMERGENCY LIGHTING VALUES

NUMBER OF EXITS REQUIRED BY SECTION 1006 OF THE INTERNATIONAL BUILDING CODE	CATEGORIES		
	a	b	c
Two or more exits	NP	0	4
Minimum of one exit	0	1	1

NP = Not Permitted.

~~1301.6.15.1~~ 1305.2.15.1 Categories. The categories for means of egress emergency lighting are:

1. Category a—Means-of-egress lighting and exit signs not provided with emergency power in accordance with Section 2702 of the International Building Code.
2. Category b—Means of egress lighting and exit signs provided with emergency power in accordance with Section 2702 of the International Building Code.
3. Category c—Emergency power provided to means of egress lighting and exit signs, which provides protection in the event of power failure to the site or building.

~~1301.6.16~~ 1305.2.16 Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section ~~1301.6.16.1~~ 1305.2.16.1, the building shall be evaluated as indicated in Section ~~1301.6~~ 1305.2, and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table ~~1301.6.16~~ 1305.2.16, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.16~~ 1305.2.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero. *Facilities* in Group I-2 occupancies meeting Category a shall be considered to fail the evaluation.

TABLE ~~1301.6.16~~ 1305.2.16 MIXED OCCUPANCY VALUES[a]

OCCUPANCY	CATEGORIES		
	a	b	c
A-1, A-2, R	-10	0	10
A-3, A-4, B, E, F, M, S	-5	0	5
I-2	NP	0	5

NP = Not Permitted.

a. For fire-resistance ratings between categories, the value shall be obtained by linear interpolation.

~~1301.6.16.1~~ 1305.2.16.1 Categories. The categories for mixed occupancies are:

1. Category a—Occupancies separated by minimum 1-hour fire barriers or minimum 1-hour horizontal assemblies, or both.
2. Category b—Separations between occupancies in accordance with Section 508.4 of the International Building Code.
3. Category c—Separations between occupancies having a fire-resistance rating of not less than twice that required by Section 508.4 of the International Building Code.

~~1301.6.17~~ 1305.2.17 Automatic sprinklers. Evaluate the ability to suppress or control a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1 of the International Building Code. “Required sprinklers” shall be based on the requirements of the International Building Code . Under the categories and occupancies in Table ~~1301.6.17~~ 1305.2.17, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.17~~ 1305.2.17, Automatic Sprinklers, for fire safety, means of egress divided by 2, and general safety. High-rise buildings defined in Chapter 2 of the *International Building Code* that undergo a *change of occupancy* to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Section 403 of the International Building Code and Chapter 9 of the International Building Code. *Facilities* in Group I-2 occupancies meeting Category a, b, c or f shall be considered to fail the evaluation.

TABLE ~~1301.6.17~~ 1305.2.17 SPRINKLER SYSTEM VALUES

OCCUPANCY	CATEGORIES					
	a[a]	b[a]	c	d	e	f
A-1, A-3, F, M, R, S-1	-6	-3	0	2	4	6
A-2	-4	-2	0	1	2	4
A-4, B, E, S-2	-12	-6	0	3	6	12
I-2	NP	NP	NP	8	10	NP

NP = Not Permitted.

a. These options cannot be taken if Category a in Section ~~1301.6.18~~ 1305.2.18 is used.

~~1301.6.17.1~~ **1305.2.17.1 Categories.** The categories for automatic sprinkler system protection are:

1. Category a— An *approved* automatic sprinkler system is required throughout; an *approved* automatic sprinkler system is not provided.
2. Category b—An *approved* automatic sprinkler system is required in a portion of a building; an *approved* automatic sprinkler system is not provided; the sprinkler system design is not adequate for the hazard protected in accordance withChapter 9 of the International Building Code.
3. Category c—An *approved* automatic sprinkler system is not required; none are provided.
4. Category d—An *approved* automatic sprinkler system is required in a portion of a building; an *approved* automatic sprinkler system is provided in a portion of a building in accordance with Chapter 9 of the International Building Code.
5. Category e—An *approved* automatic sprinkler system is required throughout; an *approved* automatic sprinkler system is provided throughout in accordance with Chapter 9 of the International Building Code.
6. Category f—An *approved* automatic sprinkler system is not required throughout; an *approved* automatic sprinkler system is provided throughout in accordance with Chapter 9 of the International Building Code.

~~1301.6.18~~ **1305.2.18 Standpipes.** Evaluate the ability to initiate attack on a fire by making a supply of water readily available through the installation of standpipes in accordance with Section 905 of the International Building Code. “Required Standpipes” shall be based on the requirements of the *International Building Code*. Under the categories and occupancies in Table ~~1301.6.18~~ 1305.2.18, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.18~~ 1305.2.18, Standpipes, for fire safety, means of egress and general safety.

TABLE ~~1301.6.18~~ 1305.2.18 STANDPIPE SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a[a]	b	c	d
A-1, A-3, F, M, R, S-1	-6	0	4	6
A-2	-4	0	2	4
A-4, B, E, S-2	-12	0	6	12
I-2	-2	0	1	2

a. This option cannot be taken if Category a or Category b in Section ~~1301.6.17~~ 1305.2.17 is used.

~~1301.6.18.1~~ 1305.2.18.1 Standpipe categories. The categories for standpipe systems are:

1. Category a—Standpipes are required; standpipe is not provided or the standpipe system design is not in compliance with Section 905.3 of the International Building Code.
2. Category b—Standpipes are not required; none are provided.
3. Category c—Standpipes are required; standpipes are provided in accordance with Section 905 of the International Building Code.
4. Category d—Standpipes are not required; standpipes are provided in accordance with Section 905 of the International Building Code.

~~1301.6.19~~ 1305.2.19 Incidental uses. Evaluate the protection of incidental uses in accordance with Section 509.4.2 of the International Building Code. Do not include those where this code requires automatic sprinkler systems throughout the building including covered and open mall buildings, high-rise buildings, public garages and unlimited area buildings. Assign the lowest score from Table ~~1301.6.19~~ 1305.2.19 for the building or floor area being evaluated and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.19~~ 1305.2.19, Incidental Uses, for fire safety, means of egress and general safety. If there are no specific occupancy areas in the building or floor area being evaluated, the value shall be zero.

TABLE ~~1301.6.19~~ 1305.2.19 INCIDENTAL USE AREA VALUES

PROTECTION REQUIRED BY TABLE 509.1 OF THE INTERNATIONAL BUILDING CODE	PROTECTION PROVIDED						
	None	1 hour	AS	AS with CRS	1 hour and AS	2 hours	2 hours and AS
2 hours and AS	-4	-3	-2	-2	-1	-2	0
2 hours, or 1 hour and AS	-3	-2	-1	-1	0	0	0
1 hour and AS	-3	-2	-1	-1	0	-1	0
1 hour	-1	0	-1	-1	0	0	0
1 hour, or AS with CRS	-1	0	-1	-1	0	0	0
AS with CRS	-1	-1	-1	-1	0	-1	0
1 hour or AS	-1	0	0	0	0	0	0

AS = Automatic Sprinkler System.

CRS = Construction capable of resisting the passage of smoke (see Section 509.4.2 of the International Building Code).

~~1301.6.20~~ 1305.2.20 Smoke compartmentation. Evaluate the smoke compartments for compliance with Section 407.5 of the International Building Code. Under the categories and occupancies in Table ~~1301.6.20~~ 1305.2.20, determine the appropriate smoke compartmentation value (SCV) and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.20~~ 1305.2.20, Smoke Compartmentation, for fire safety, means of egress and general safety. *Facilities* in Group I-2 occupancies meeting Category b or c shall be considered to fail the evaluation.

TABLE ~~1301.6.20~~ 1305.2.20 SMOKE COMPARTMENTATION VALUES

OCCUPANCY	CATEGORIES[a]		
	a	b	c
A, B, E, F, M, R and S	0	0	0
I-2	0	-10	NP

NP = Not Permitted.

a. For areas between categories, the smoke compartmentation value shall be obtained by linear interpolation.

~~1301.6.20.1~~ 1305.2.20.1 Categories. Categories for smoke compartment size are:

1. Category a—Smoke compartment complies with Section 407.5 of the *International Building Code*.
2. Category b—Smoke compartment are provided but do not comply with Section 407.5 of the *International Building Code*.
3. Category c—Smoke compartments are not provided.

~~1301.6.21~~ 1305.2.21 Care recipient ability, concentration, smoke compartment location and ratio to attendant. In I-2 occupancies, the ability of care recipients, their concentration and ratio to attendants shall be evaluated and applied in accordance with this section. Evaluate each smoke compartment using the categories in Sections ~~1301.6.21.1~~ 1305.2.21.1, ~~1301.6.21.2~~ 1305.2.21.2 and ~~1301.6.21.3~~ 1305.2.21.3 and enter the value in Table ~~1301.7~~ 1306.1. To determine the safety factor, multiply the three values together; if the product is less than 6, compliance has failed.

~~1301.6.21.1~~ 1305.2.21.1 Care recipient ability for self-preservation. Evaluate the ability of the care recipients for self-preservation in each smoke compartment in an emergency. Under the categories and occupancies in Table ~~1301.6.21.1~~ 1305.2.21.1, determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.21.1~~ 1305.2.21.1, Care Recipient Ability for Self-preservation, for means of egress and general safety.

TABLE ~~1301.6.21.1~~ 1305.2.21.1 CARE RECIPIENT ABILITY VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	3	2	1

~~1301.6.21.1.1~~ 1305.2.21.1.1 Categories. The categories for care recipient ability for self-preservation are:

1. Category a—(mobile) Care recipients are capable of self-preservation without assistance.
2. Category b—(not mobile) Care recipients rely on assistance for evacuation or relocation.
3. Category c—(not movable) Care recipients cannot be evacuated or relocated.

~~1301.6.21.2~~ 1305.2.21.2 Care recipient concentration. Evaluate the concentration of care recipients in each smoke compartment under Section ~~1301.6.21.2~~ 1305.2.21.2. Under the categories and occupancies in Table ~~1301.6.21.2~~ 1305.21.2 determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.21.2~~ 1305.2.21.2, Care Recipient Concentration, for means of egress and general safety.

TABLE ~~1301.6.21.2~~ 1305.2.21.2 CARE RECIPIENT CONCENTRATION VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	3	2	1

~~1301.6.21.2.1~~ 1305.2.21.2.1 Categories:. The categories for care recipient concentration are:

1. Category a—smoke compartment has 1 to 10 care recipients.
2. Category b—smoke compartment has more than 10 to 40 care recipients.
3. Category c—smoke compartment has more than 40 care recipients.

~~1301.6.21.3~~ 1305.2.21.3 Attendant-to-care recipients ratio. Evaluate the attendant-to-care recipients ratio for each compartment under Section ~~1301.6.21.3~~ 1305.2.21.3. Under the categories and occupancies in Table ~~1301.6.21.3~~ 1305.2.21.3 determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.21.3~~ 1305.2.21.3, Attendant-to-Care Recipients Ratio, for means of egress and general safety.

TABLE ~~1301.6.21.3~~ 1305.2.21.3 ATTENDANT-TO-CARE RECIPIENTS RATIO VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	3	2	1

~~1301.6.21.3.1~~ 1305.2.21.3.1 Categories. The categories for attendant-to-care recipient concentrations are:

1. Category a—attendant-to-care recipients concentration is 1:5 or no care recipients.
2. Category b—attendant-to-care recipients concentration is 1:6 to 1:10.
3. Category c—attendant-to-care recipients concentration is greater than 1:10.

Add new text as follows:

SECTION 1306
BUILDING SCORE

Revise as follows:

~~1301.7~~ 1306.1 Building score. After determining the appropriate data from Section ~~1301.6~~ 1305.2, enter those data in Table ~~1301.7~~ 1306.1 and total the building score.

TABLE ~~1301.7~~ 1306.1 SUMMARY SHEET—BUILDING CODE

Year building was constructed:_____		Number of stories: _____ Height in feet:_____	
Type of construction: _____		Area per floor: _____	
Percentage of open perimeter increase: _____ %			
Completely suppressed:	Yes_____ No_____	Corridor wall rating:_____	
		Type:_____	
Compartmentation:	Yes _____ No _____	Required door closers:	Yes_____ No_____
Fire-resistance rating of vertical opening enclosures:_____			
Type of HVAC system:_____, serving number of floors: _____			
Automatic fire detection:	Yes_____ No_____	Type and location: _____	
Fire alarm system:	Yes_____ No_____	Type:_____	
Smoke control:	Yes_____ No_____	Type:_____	
Adequate exit routes:	Yes _____ No_____	Dead ends: _____	Yes _____ No _____
Maximum exit access travel distance: _____		Elevator controls:	Yes _____ No _____
Means of egress emergency lighting:	Yes _____ No _____	Mixed occupancies:	Yes _____ No _____
Standpipes:	Yes_____ No_____	Care recipients ability for self-preservation: _____	
Incidental use:	Yes_____ No_____	Care recipients concentration: _____	
Smoke compartmentation less than 22,500 sq. feet (2092 m^2):	Yes_____ No_____	Attendant-to-care recipients ratio: _____	

SAFETY PARAMETERS	FIRE SAFETY (FS)	MEANS OF EGRESS (ME)	GENERAL SAFETY (GS)
~~1301.6.1~~ 1305.2.1 Building height			
~~1301.6.2~~ 1305.2.2 Building area			
~~1301.6.3~~ 1305.2.3 Compartmentation			
~~1301.6.4~~ 1305.2.4 Tenant and dwelling unit separations			
~~1301.6.5~~ 1305.2.5 Corridor walls			
~~1301.6.6~~ 1305.2.6 Vertical openings			
~~1301.6.7~~ 1305.2.7 HVAC systems			
~~1301.6.8~~ 1305.2.8 Automatic fire detection			
~~1301.6.9~~ 1305.2.9 Fire alarm system			
~~1301.6.10~~ 1305.2.10 Smoke control	* * * *		
~~1301.6.11~~ 1305.2.11 Means of egress	* * * *		
~~1301.6.12~~ 1305.2.12 Dead ends	* * * *		
~~1301.6.13~~ 1305.2.13 Maximum exit access travel distance	* * * *		
~~1301.6.14~~ 1305.2.14 Elevator control			
~~1301.6.15~~ 1305.2.15 Means of egress emergency lighting	* * * *		
~~1301.6.16~~ 1305.2.16 Mixed occupancies		* * * *	
~~1301.6.17~~ 1305.2.17 Automatic sprinklers		÷ 2 =	
~~1301.6.18~~ 1305.2.18 Standpipes			

~~1301.6.19~~ 1305.2.19 Incidental use			
~~1301.6.20~~ 1305.2.20 Smoke compartmentation			
~~1301.6.21.1~~ 1305.2.21.1 Care recipients ability for self-preservation[a]	* * * *		
~~1301.6.21.2~~ 1305.2.21.2 Care recipients concentration[a]	* * * *		
~~1301.6.21.3~~ 1305.2.21.3 Attendant-to-care recipients ratio[a]	* * * *		
Building score–total value			

* * * *No applicable value to be inserted.

a. Only applicable to Group I-2 occupancies.

~~1301.8~~ 1306.2 Safety scores. The values in Table ~~1301.8~~ 1306.2 are the required mandatory safety scores for the evaluation process listed in Section ~~1301.6~~ 1305.2.

TABLE ~~1301.8~~ 1306.2 MANDATORY SAFETY SCORES[a]

OCCUPANCY	FIRE SAFETY(MFS)	MEANS OF EGRESS (MME)	GENERAL SAFETY (MGS)
A-1	20	31	31
A-2	21	32	32
A-3	22	33	33
A-4, E	29	40	40
B	30	40	40
F	24	34	34
I-2	19	34	34
M	23	40	40
R	21	38	38
S-1	19	29	29
S-2	29	39	39

a. MFS = Mandatory Fire Safety.

MME = Mandatory Means of Egress.

MGS = Mandatory General Safety.

Add new text as follows:

SECTION 1307
EVALUATION OF BUILDING SAFETY

Revise as follows:

~~1301.9~~ 1307.1 Evaluation of building safety. The mandatory safety score in Table ~~1301.8~~ 1306.2 shall be subtracted from the building score in Table ~~1301.7~~ 1306.1 for each category in accordance with the evaluation formulas in Table ~~1301.9~~ 1307.1. Where the final score for any category equals zero or more, the building is in compliance with the requirements of this section for that category. Where the final score for any category is less than zero, the building is not in compliance with the requirements of this section.

TABLE ~~1301.9~~ 1307.1 EVALUATION FORMULAS[a]

FORMULA	TABLE ~~1301.7~~ 1306.1	TABLE ~~1301.8~~ 1306.2		SCORE	PASS	FAIL
FS – MFS ≥ 0	_____(FS) –	_____(MFS)	=	_____	_____	_____
ME – MME ≥ 0	_____(ME) –	_____(MME)	=	_____	_____	_____
GS – MGS ≥ 0	_____(GS) –	_____(MGS)	=	_____	_____	_____

a. FS = Fire Safety.

ME = Means of Egress.

GS = General Safety.

MFS = Mandatory Fire Safety.

MME = Mandatory Means of Egress.

MGS = Mandatory General Safety.

~~1301.9.1~~ **1307.1.1 Mixed occupancies.** For mixed occupancies, the following provisions shall apply:

1. Where the separation between mixed occupancies does not qualify for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the mandatory safety scores for the occupancy with the lowest general safety score in Table ~~1301.8~~ 1306.2 shall be utilized (see Section ~~1301.6~~ 1305.2).
2. Where the separation between mixed occupancies qualifies for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the mandatory safety scores for each occupancy shall be placed against the evaluation scores for the appropriate occupancy. An evaluation is not required for areas of the building with separated occupancies in accordance with Table 508.4 of the *International Building Code* in which there are no *alterations* or *change of occupancy*.

Reason Statement: This is a reformatting of section numbers so that everything is not under one section.
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 2020 and 2021 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 https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal merely renumbers Chapter 13 so that all sections do not fall under Section 1301. This is meant to make the provisions easier to navigate. Therefore, because this is proposal is simply renumbering the chapter there is no increase in construction or compliance costs.

CCCIEBC3-22

CCCIRC3-22

IRC: R312.1.4

Proponents: Glenn Mathewson, representing North American Deck and Railing Association (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

R312.1.4 Exterior plastic composite guards. *Plastic composite* exterior *guards* shall comply with the requirements of Section R507.2.2 ~~R317.4~~.

Reason Statement: Section R317.4 is about decay resistance of wood and wood-based products. Plastic composites are often wood based, so R317.4 is simply a pointer to R507.2.2 where all the details for plastic composite are provided. This proposal simple points the guard section directly to the plastic composite provisions. This is the same reference as R311.7.5.4 for stair treads and R311.7.8.6 for handrails.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is only editorial and will not affect the cost of construction.

CCCIBC4-22

IBC: 1607.4

Proponents: Jennifer Goupil, representing Structural Engineering Institute of ASCE (jgoupil@asce.org)

2021 International Building Code

Revise as follows:

1607.4 Concentrated live loads. Floors, roofs and other similar surfaces shall be designed to support the uniformly distributed *live loads* prescribed in Section 1607.3 or the concentrated *live loads*, given in Table 1607.1, whichever produces the greater *load effects*. Unless otherwise specified, the indicated ~~concentration~~ concentrated *load* shall be assumed to be uniformly distributed over an area of $2^1/_2$ feet by $2^1/_2$ feet (762 mm by 762 mm) and shall be located so as to produce the maximum *load effects* in the structural members.

Reason Statement: This proposal is a coordination proposal to bring the 2024 IBC up to date with the provisions of the 2022 edition of ASCE/SEI 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22). ASCE 7 will be updated to the 2022 edition from the 2016 edition as an Administrative update in the 2024 I-Codes.

This proposal makes an editorial change to coordinate with the 2022 edition of ASCE 7. This same change was made to ASCE 7-16. The revised text is more clear and agrees with the typical terminology used for concentrated loads in the IBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Editorial change for clarity.

CCCIRC4-22

IRC: TABLE R302.1(2), R302.2.6, SECTION R313, R313.1, R326.3, TABLE AG101.1, P2902.5.4, SECTION P2904, P2904.3.1

Proponents: John Swanson, representing National Fire Sprinkler Association (swanson@nfsa.org)

2021 International Residential Code

Revise as follows:

TABLE R302.1(2) EXTERIOR WALLS—DWELLINGS WITH ~~A FIRE SPRINKLERS~~ AN AUTOMATIC SPRINKLER SYSTEM

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code with exposure from the outside	0 feet
	Not fire-resistance rated	0 hours	3 feet[a]
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood[b, c]	2 feet[a]
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	NA	< 3 feet
	Unlimited	0 hours	3 feet[a]
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet[a]

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

c. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed.

R302.2.6 Structural independence. Each *townhouse unit* shall be structurally independent.

Exceptions:

1. Foundations supporting exterior walls or common walls.
2. Structural roof and wall sheathing from each unit fastened to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Townhouse units* separated by a common wall as provided in Section R302.2.2, Item 1 or 2.
6. *Townhouse units* protected by ~~a fire~~ an automatic sprinkler system complying with Section P2904 or NFPA 13D.

SECTION R313
AUTOMATIC ~~FIRE~~ SPRINKLER SYSTEMS

R313.1 Townhouse automatic ~~fire~~ sprinkler systems. An automatic sprinkler system shall be installed in *townhouses*.

Exception: An automatic sprinkler system shall not be required where *additions* or *alterations* are made to existing *townhouses* that do not have an automatic sprinkler system installed.

R326.3 Story above grade plane. A habitable attic shall be considered a story above grade plane.
Exceptions: A habitable attic shall not be considered to be a story above grade plane provided that the habitable attic meets all the following:

1. The aggregate area of the habitable attic is either of the following:

    1.1. Not greater than one-third of the floor area of the story below.

    1.2. Not greater than one-half of the floor area of the story below where the habitable attic is located within a dwelling unit equipped with ~~a fire~~ an automatic sprinkler system in accordance with Section P2904.

2. The occupiable space is enclosed by the roof assembly above, knee walls, if applicable, on the sides and the floor-ceiling assembly below.
3. The floor of the habitable attic does not extend beyond the exterior walls of the story below.
4. Where a habitable attic is located above a third story, the dwelling unit or townhouse unit shall be equipped with ~~a fire~~ an automatic sprinkler system in accordance with Section P2904.

TABLE AG101.1 PLASTIC PIPING STANDARDS FOR VARIOUS APPLICATIONS[a, b]

APPLICATION	LOCATION	TYPE OF PLASTIC PIPING								
		ABS	CPVC	PE	PE-AL-PE	PE-RT	PEX	PEX-AL-PEX	PP	PVC
Central vacuum	System piping	—	—	—	—	—	—	—	—	ASTM F2158
Foundation drainage	System piping	ASTM F628	—	ASTM F405	—	—	—	—	—	ASTM D2665; ASTM D2729; ASTM D3034
Geothermal ground loop	System piping	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855; CSA B137.6	ASTM D2239; ASTM D2737; ASTM D3035	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; CSA B137.11	ASTM D1785; ASTM D2241; CSA B137.3
	Loop piping	—	—	ASTM D2239; ASTM D2737; ASTM D3035; NSF 358-1	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	—	ASTM F2389; CSA B137.11	—
Graywater	Nonpressure distribution/collection	ASTM F628	—	ASTM D2239; ASTM D2737; ASTM D3035; ASTM F2306	—	—	—	—	ASTM F2389; CSA B137.11	ASTM D1785; ASTM D2729; ASTM D2949; ASTM D3034; ASTM F891; ASTM F1760 ; CSA B137.3
	Pressure/distribution	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855; CSA B137.6	ASTM D2239; ASTM D2737; ASTM D3035	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; CSA B137.11	ASTM D1785; ASTM D2241; CSA B137.3
Radiant cooling	Loop piping	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855	ASTM D2239; ASTM D2737; ASTM D3035	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; CSA B137.11	—
Radiant heating	Loop piping	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855	—	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; CSA B137.11	—
	Nonpressure/collection	ASTM F628	—	ASTM F1901	—	—	—	—	ASTM F2389; CSA B137.11	ASTM D1785; ASTM D2729; ASTM D2949; ASTM F891; ASTM F1760 ; CSA B137.3

Rainwater harvesting **APPLICATION**	**LOCATION**	**TYPE OF PLASTIC PIPING**								
		ABS	**CPVC**	**PE**	**PE-AL-PE**	**PE-RT**	**PEX**	**PEX-AL-PEX**	**PP**	**PVC**
	Pressure/distribution	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855; CSA B137.6	ASTM D2239 ASTM D2737; ASTM D3035	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; CSA B137.11	ASTM D1785; ASTM D2241; CSA B137.3
Radon venting	System piping	ASTM F628	—	—	—	—	—	—	—	ASTM D1785; ASTM F891; ASTM F1760
Reclaimed water	Main to building service	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855; CSA B137.6	ASTM D3035; AWWA C901; CSA B137.1	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; AWWA C904; CSA B137.5	—	ASTM F2389; CSA B137.11	ASTM D1785; ASTM D2241; AWWA C905; CSA B137.3
	Pressure/distribution/irrigation	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855; CSA B137.6	ASTM D2239; ASTM D2737; ASTM D3035	ASTM F1282	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; AWWA C900 ; CSA B137.11	ASTM D1785; ASTM D2241; AWWA C900
~~Residential fire sprinklers~~ Automatic Sprinkler Systems[c]	Sprinkler piping	—	ASTM F441; ASTM F442; CSA B137.6; UL 1821	—	—	ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5; UL 1821	—	ASTM F2389; CSA B137.11	—
Solar heating	Pressure/distribution	—	ASTM D2846; ASTM F441; ASTM F442; ASTM F2855	—	—	ASTM F2623; ASTM F2769; CSA B137.18	ASTM F876; CSA B137.5	ASTM F1281	ASTM F2389; CSA B137.11	—

a. This table indicates manufacturing standards for plastic piping materials that are suitable for use in the applications indicated. Such applications support green and sustainable building practices. The system designer or the installer of piping shall verify that the piping chosen for an application complies with local codes and the recommendations of the manufacturer of the piping.

b. Fittings applicable for the piping shall be as recommended by the manufacturer of the piping.

c. Piping ~~systems~~ for ~~fire~~ automatic sprinkler systems ~~applications~~ shall be listed for the application.

P2902.5.4 Connections to automatic ~~fire~~ sprinkler systems. The potable water supply to automatic ~~fire~~ sprinkler systems shall be protected against backflow by a double-check backflow prevention assembly, a double-check fire protection backflow prevention assembly, a reduced pressure principle backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly.

Exception: Where an automatic sprinkler system~~s are~~ is installed in accordance with Section P2904.1, backflow protection for the water supply system shall not be required.

SECTION P2904
DWELLING UNIT ~~FIRE~~ AUTOMATIC SPRINKLER SYSTEMS

P2904.3.1 Nonmetallic pipe and tubing. Nonmetallic pipe and tubing, such as CPVC, PEX, and PE-RT shall be *listed* for use in residential ~~fire~~ automatic sprinkler systems.

Reason Statement: The intent of this code change proposal is to coordinate terminology between the IBC, IFC, IEBC and IRC when referring to "automatic sprinkler system" since this term is used and defined in the International Building Code and International Fire Code. This change is

intended to coordinate terminology in the IRC so the term is used consistently throughout the document. It is not the intent of this proposal to make any substantive changes to automatic sprinkler system requirements in the IRC. Existing code sections referencing specific components or appurtenances of an automatic sprinkler system were left untouched. For example, this proposal is not recommending any changes to R302.2.2, R302.4.1, or any other section referencing "water-filled sprinkler piping", since these sections are referring to specific components of an automatic sprinkler system. This proposal also attempts to mirror F75-21 Part II (attached) in relation to clarifying terminology relating to automatic sprinkler systems in the IRC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no technical changes to this code section. This proposal is being made for correlation purposes with the terminology used.

CCCIRC4-22

CCCIBC5-22

IBC: 1607.12

Proponents: Jennifer Goupil, representing Structural Engineering Institute of ASCE (jgoupil@asce.org)

2021 International Building Code

Revise as follows:

1607.12 Reduction in uniform live loads. Except for uniform roof *live loads* ~~at roofs~~, all other minimum uniformly distributed *live loads*, L_o, in Table 1607.1 are permitted to be reduced in accordance with Section 1607.12.1 or 1607.12.2. Uniform roof *live loads* ~~at roofs~~ are permitted to be reduced in accordance with Section 1607.14.2.

Reason Statement: This proposal is a coordination proposal to bring the 2024 IBC up to date with the provisions of the 2022 edition of ASCE/SEI 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22). ASCE 7 will be updated to the 2022 edition from the 2016 edition as an Administrative update in the 2024 I-Codes.

These changes are proposed to improve the coordination between the IBC and ASCE 7 by aligning terminology. The proposed change modifies the text to use the defined term, *roof live load*, that is commonly used throughout the IBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The terminology change will not change the cost of construction.

CCCIRC5-22

IRC: R316.3

Proponents: Tim Earl, representing Self (tearl@gbhint.com)

2021 International Residential Code

Revise as follows:

R316.3 Surface burning characteristics. Unless otherwise allowed in Section R316.5, foam plastic, or foam plastic cores used as a component in manufactured assemblies, used in building construction shall comply with Section R316.3.1 or R316.3.2. Loose-fill-type foam plastic insulation shall be tested as board stock for the flame spread index and *smoke-developed index*.

> **Exception:** Spray foam plastic insulation more than 4 inches (102 mm) in thickness shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450 where tested at a thickness of 4 inches (102 mm) and at the density intended for use. Such spray foam plastic shall be separated from the interior of a building by $^{1}/_{2}$-inch (12.7 mm) gypsum wallboard or by a material that ~~has been tested in accordance with NFPA 275, and shall meet the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test.~~ is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

R316.4 Thermal barrier. Unless otherwise allowed in Section R316.5, foam plastic shall be separated from the interior of a building by an *approved* thermal barrier of not less than $^{1}/_{2}$-inch (12.7 mm) gypsum wallboard, $^{23}/_{32}$-inch (18.2 mm) *wood structural panel* or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Reason Statement: This is editorial cleanup. The exception to R316.3 and the text of R316.4 say the same thing in different ways. The language in R316.4 is better code language, so this proposal revises the exception to R316.3 to match.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simple editorial cleanup.

CCCIRC6-22

IRC: R703.1.1

Proponents: Martin Hammer, representing Martin Hammer, Architect (mfhammer@pacbell.net); David Eisenberg, representing DCAT (strawnet@gmail.com)

2021 International Residential Code

Revise as follows:

R703.1.1 Water resistance. The exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a ~~water-resistant barrier~~ *water-resistive barrier* behind the exterior cladding as required by Section R703.2 and a means of draining to the exterior water that penetrates the exterior cladding.

Exceptions:

1. A weather-resistant exterior wall envelope shall not be required over concrete or masonry walls designed in accordance with Chapter 6 and flashed in accordance with Section R703.4 or R703.8.
2. Compliance with the requirements for a means of drainage, and the requirements of Sections R703.2 and R703.4, shall not be required for an exterior wall envelope that has been demonstrated to resist wind-driven rain through testing of the exterior wall envelope, including joints, penetrations and intersections with dissimilar materials, in accordance with ASTM E331 under the following conditions:

    2.1. Exterior wall envelope test assemblies shall include at least one opening, one control joint, one wall/eave interface and one wall sill. All tested openings and penetrations shall be representative of the intended end-use configuration.

    2.2. Exterior wall envelope test assemblies shall be at least 4 feet by 8 feet (1219 mm by 2438 mm) in size.

    2.3. Exterior wall assemblies shall be tested at a minimum differential pressure of 6.24 pounds per square foot (299 Pa).

    2.4. Exterior wall envelope assemblies shall be subjected to the minimum test exposure for a minimum of 2 hours.

The exterior wall envelope design shall be considered to resist wind-driven rain where the results of testing indicate that water did not penetrate control joints in the exterior wall envelope, joints at the perimeter of openings penetration or intersections of terminations with dissimilar materials.

Reason Statement: This proposal changes the term "water-resistant barrier" in Section R703.1.1 to "*water-resistive barrier*", because the section and sentence using that term directly references Section R703.2 Water-resistive barriers. "Water-resistive barrier" is a defined term whereas "water-resistant barrier" is not.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal replaces an improper term with the proper term, and does not affect construction costs.

CCCIBC7-22

IBC: 1609.5, 1609.5.1, 1609.5.2, 1609.5.2.1 (New)

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (ARMA) (aphillips@asphaltroofing.org)

2021 International Building Code

1609.5 Roof systems. Roof systems shall be designed and constructed in accordance with Sections 1609.5.1 through 1609.5.3, as applicable.

1609.5.1 Roof deck. The *roof deck* shall be designed to withstand the wind pressures determined in accordance with ASCE 7.

Revise as follows:

1609.5.2 Roof coverings. *Roof coverings* shall comply with Section 1609.5.1.

Exception: Rigid tile *roof coverings* that are air permeable and installed over a *roof deck* complying with Section 1609.5.1 are permitted to be designed in accordance with Section 1609.5.3.

~~Asphalt shingles installed over a *roof deck* complying with Section 1609.5.1 shall comply with the wind-resistance requirements of Section 1504.2 .~~

Add new text as follows:

1609.5.2.1 Asphalt shingles. Asphalt shingles installed over a *roof deck* complying with Section 1609.5.1 shall comply with the wind-resistance requirements of Section 1504.2 .

Reason Statement: This proposal inserts a subsection into Section 1609.5.2 to clearly separate the provisions for asphalt shingles, which point to Section 1504.2, from the Exception that addresses rigid tile roof coverings, which points to 1609.5.3. Doing so removes the opportunity for misinterpretation of the requirements for asphalt shingles.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal reduces ambiguity and possible misinterpretation of existing provisions without making technical changes. No affect on cost of construction is expected.

CCCIRC7-22

IRC: R908.3.1, R908.3.1.1, R908.4

Proponents: Marcin Pazera, representing Polyisocyanurate Insulation Manufacturers Association (mpazera@pima.org); Richard Justin Koscher, representing Polyisocyanurate Insulation Manufacturers Association (jkoscher@pima.org)

2021 International Residential Code

Revise as follows:

~~R908.3.1~~ R908.4 Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions
2. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system and do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
3. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs where applied in accordance with Section R908.4.
4. The application of a new protective *roof coating* over an existing protective *roof coating*, *metal roof panel*, *metal roof shingle*, mineral surfaced roll roofing, built-up roof, modified bitumen roofing, thermoset and thermoplastic single-ply roofing and spray polyurethane foam roofing system shall be permitted without tear-off of existing roof coverings.

Exception: A *roof recover* shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

Delete without substitution:

~~**R908.3.1.1 Roof recover not allowed.** A *roof recover* shall not be permitted where any of the following conditions occur:~~

1. ~~Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.~~
2. ~~Where the existing roof covering is slate, clay, cement or asbestos-cement tile.~~
3. ~~Where the existing roof has two or more applications of any type of roof covering.~~

Revise as follows:

R908.4.1 ~~R908.4~~ Roof recovering over wood shingles or shakes. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other *approved* materials securely fastened in place.

Reason Statement: This proposal separates roof recover from roof replacement because the two reroofing activities are distinct and only one activity (recover or replacement) can occur on a project at one time. Roof recover is not a subset of roof replacement but a stand alone activity and it is important to recognize it as such. Furthermore, the proposal eliminates number section (1512.2.1.1) in front of exemption for consistency with other sections of the IBC. This proposal creates a sub-section (1512.3.1 Roof recovering over wood shingles or shakes) to ensure consistency with the format of the IBC. Finally, in the International Residential Code, the proposal harmonizes language in the title for consistency with IBC and IEBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code proposal addresses important formatting clarification and does not impact the cost of construction. This proposal does not create new requirements in Section 15 of the IBC.

CCCIRC8-22

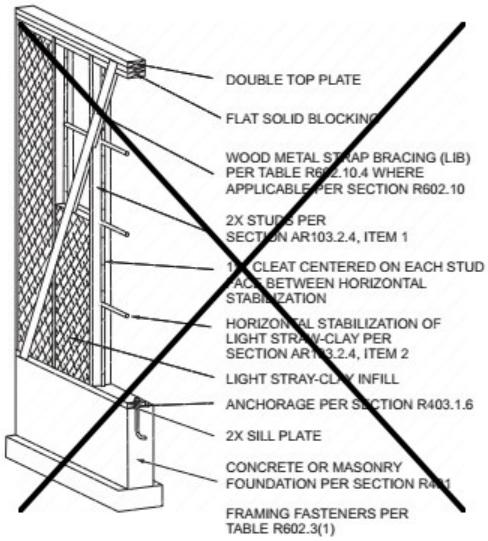
IRC: AR104.1, FIGURE AR103.2.4(2), FIGURE AR103.2.4(3)

Proponents: Martin Hammer, representing Martin Hammer, Architect (mfhammer@pacbell.net); David Eisenberg, representing DCAT (strawnet@gmail.com); Anthony Dente, representing Verdant Structural Engineers (anthony@verdantstructural.com); David Arkin, representing California Straw Building Association (david@arkintilt.com)

2021 International Residential Code

Revise as follows:

AR104.1 Thermal characteristics. Walls with light straw-clay infill of densities ~~of~~ greater than or equal to 20 pounds per cubic foot (480.6 kg/m^3) shall be classified as mass walls in accordance with Section N1102.2.5 (R402.2.5) and shall meet the *R*-value requirements for mass walls in Table N1102.1.3 (R402.1.2). Walls with light straw-clay infill of densities less than 20 pounds per cubic foot (480.6 kg/m^3) shall meet the *R*-value requirements for wood frame walls in Table N1102.1.3 (R402.1.2).


DOUBLE TOP PLATE
FLAT SOLID BLOCKING
WOOD METAL STRAP BRACING (LIB) PER TABLE R602.10.4 WHERE APPLICABLE PER SECTION R602.10
2X STUDS PER SECTION AR103.2.4, ITEM 1
1" CLEAT CENTERED ON EACH STUD FACE BETWEEN HORIZONTAL STABILIZATION
HORIZONTAL STABILIZATION OF LIGHT STRAW-CLAY PER SECTION AR103.2.4, ITEM 2
LIGHT STRAY-CLAY INFILL
ANCHORAGE PER SECTION R403.1.6
2X SILL PLATE
CONCRETE OR MASONRY FOUNDATION PER SECTION R4
FRAMING FASTENERS PER TABLE R602.3(1)

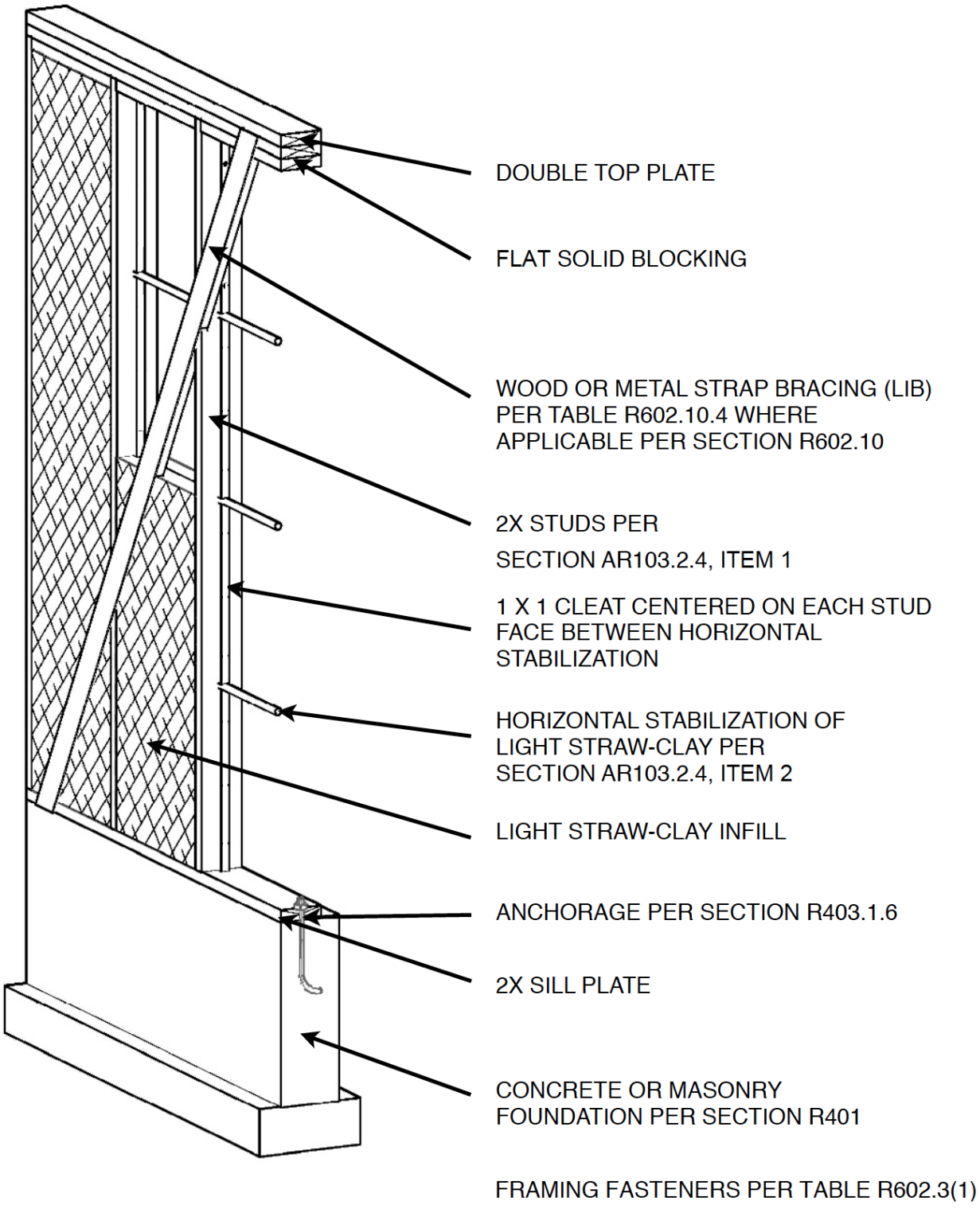
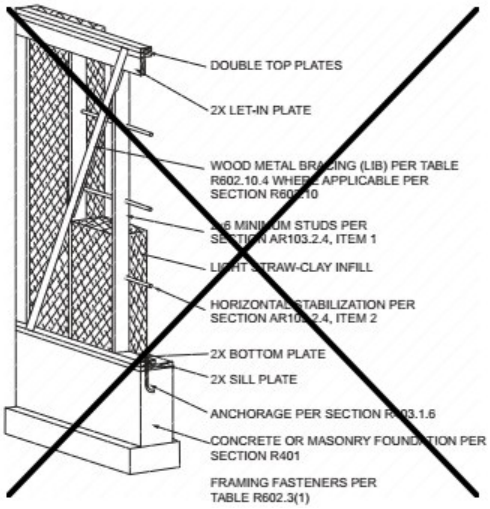


FIGURE AR103.2.4(2)
LIGHT STRAW-CLAY WALL
SINGLE STUD WIDTH

FIGURE AR103.2.4(2) LIGHT STRAW-CLAY WALL SINGLE STUD WIDTH


DOUBLE TOP PLATES
2X LET-IN PLATE
WOOD METAL BRACING (LIB) PER TABLE R602.10.4 WHERE APPLICABLE PER SECTION R602.10
2X6 MINIMUM STUDS PER SECTION AR103.2.4, ITEM 1
LIGHT STRAW-CLAY INFILL
HORIZONTAL STABILIZATION PER SECTION AR103.2.4, ITEM 2
2X BOTTOM PLATE
2X SILL PLATE
ANCHORAGE PER SECTION R403.1.6
CONCRETE OR MASONRY FOUNDATION PER SECTION R401
FRAMING FASTENERS PER TABLE R602.3(1)

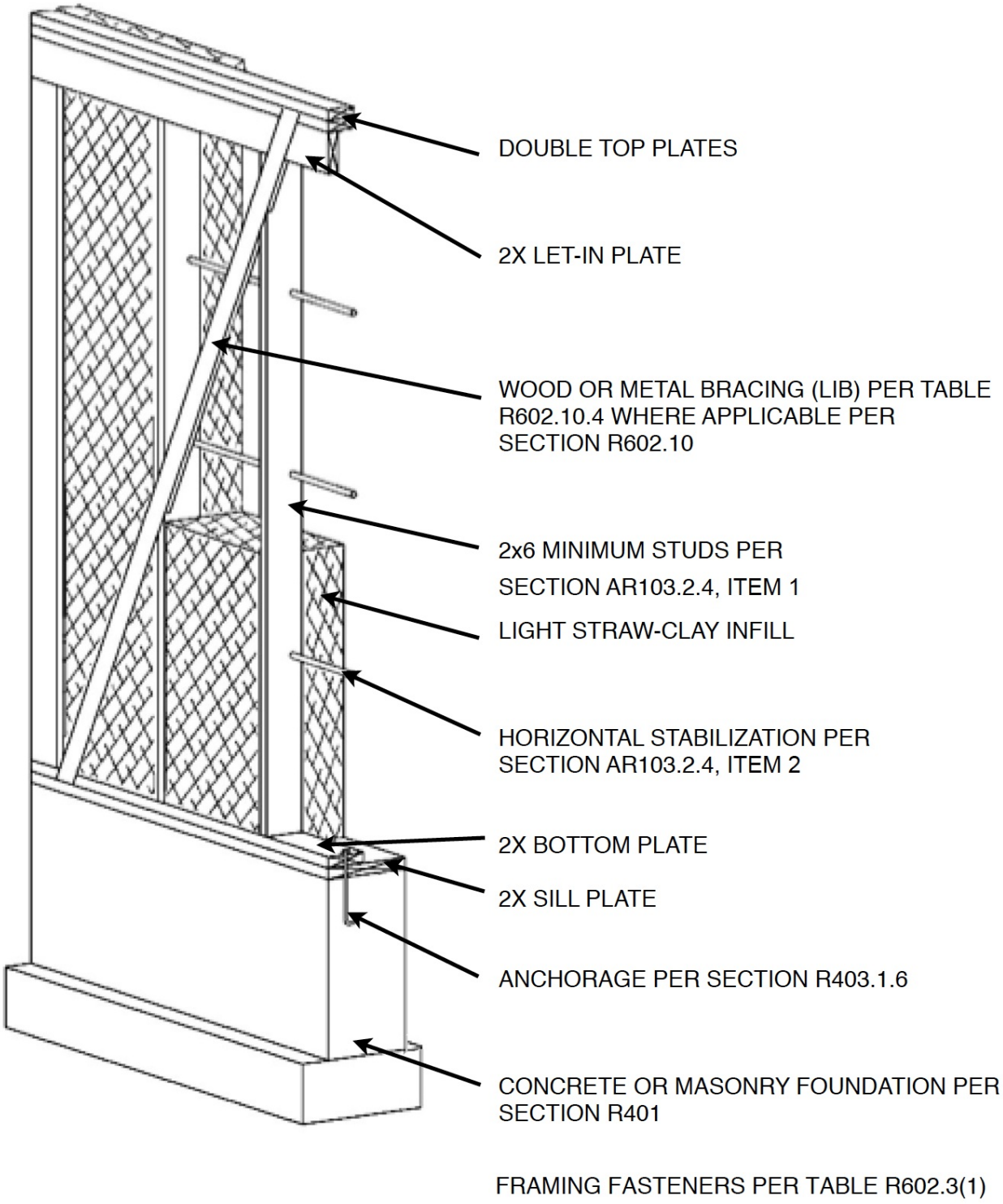


FIGURE AR103.2.4(3)
LIGHT STRAW-CLAY WALL
WITH BLIND STUDS

Note for errata in figure - 3rd note -

Wood or Metal strap bracing (lib) per.....

FIGURE AR103.2.4(3) LIGHT STRAW-CLAY WALL WITH BLIND STUDS

Reason Statement: This proposal removes an unnecessary word in Section AR104.1, and corrects typographical errors in Figures AR103.2.4(2) & (3). The words “WOOD METAL BRACING” are replaced with “WOOD OR METAL BRACING” in the third from top call-out note in those Figures.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The improvements to code language and the correction of typographical errors do not affect the cost of construction.

CCCIRC8-22

CCCIBC8-22

IBC: 1807.1.6.3

Proponents: Phillip Samblanet, representing The Masonry Society (psamblanet@masonrysociety.org); Jason Thompson, representing Masonry Alliance for Codes and Standards (jthompson@ncma.org)

2021 International Building Code

Revise as follows:

1807.1.6.3 Masonry foundation walls. Masonry foundation walls shall comply with the following:

1. The thickness shall comply with the requirements of Table 1807.1.6.3(1) for *plain masonry* walls or Table 1807.1.6.3(2), 1807.1.6.3(3) or 1807.1.6.3(4) for masonry walls with reinforcement.
2. Vertical reinforcement shall have a minimum yield strength of 60,000 psi (414 MPa).
3. The specified location of the reinforcement shall equal or exceed the effective depth distance, *d*, noted in Tables 1807.1.6.3(2), 1807.1.6.3(3) and 1807.1.6.3(4) and shall be measured from the face of the exterior (soil) side of the wall to the center of the vertical reinforcement. The reinforcement shall be placed within the tolerances specified in TMS 602~~, Article 3.4.B.11,~~ for ~~of~~ the specified location.
4. Grout shall comply with Section 2103.3.
5. Concrete *masonry units* shall comply with ASTM C90.
6. Clay *masonry units* shall comply with ASTM C652 for hollow brick, except compliance with ASTM C62 or ASTM C216 shall be permitted where solid *masonry units* are installed in accordance with Table 1807.1.6.3(1) for *plain masonry*.
7. *Masonry units* shall be laid in *running bond* and installed with Type M or S *mortar* in accordance with Section 2103.2.1.
8. The unfactored axial *load* per linear foot of wall shall not exceed 1.2 $t f'_m$ where t is the specified wall thickness in inches and f'_m is the *specified compressive strength of masonry* in pounds per square inch.
9. Not less than 4 inches (102 mm) of *solid masonry* shall be provided at girder supports at the top of hollow *masonry unit* foundation walls.
10. Corbeling of masonry shall be in accordance with Section 2104.1. Where an 8-inch (203 mm) wall is corbeled, the top corbel shall not extend higher than the bottom of the floor framing and shall be a full course of headers not less than 6 inches (152 mm) in length or the top course *bed joint* shall be tied to the vertical wall projection. The tie shall be W2.8 (4.8 mm) and spaced at a maximum horizontal distance of 36 inches (914 mm). The hollow space behind the corbelled masonry shall be filled with *mortar* or grout.

Reason Statement: In an effort to delete unneeded words and future section references, the specific section is being proposed to be deleted. This section has moved in the 2022 edition of the standard and rather than to continually update references, it is deleted because just referencing TMS 602 pulls in that requirement.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change updates a reference to a more general reference without changing what is required. As such, there is no impact on construction costs.

CCCIRC9-22 Part I

PART 1 -IRC: SECTION 202;

PART 2 - IBC: SECTION 202

Proponents: THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE BUILDING COMMITTEE AND PART 2 WILL BE HEARD BY THE INTERNATIONAL BUILDING CODE STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

[BS] DECORATIVE ~~GLASS~~ GLAZING. A carved, leaded or *Dalle glass* or glazing material whose purpose is decorative or artistic, not functional; whose coloring, texture or other design qualities or components cannot be removed without destroying the glazing material and whose surface, or assembly into which it is incorporated, is divided into segments.

Staff Analysis: The IBC definition was added to the proposal as a modification by the CCC committee. See CCC Item IRC9-22.

CCCIRC9-22 Part II

PART 1 -IRC: SECTION 202;

PART 2 - IBC: SECTION 202

Proponents: THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE BUILDING COMMITTEE AND PART 2 WILL BE HEARD BY THE INTERNATIONAL BUILDING CODE STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Residential Code

Revise as follows:

[RB] DECORATIVE GLAZING ~~GLASS~~. A carved, leaded or Dalle glass or glazing material with a purpose that is decorative or artistic, not functional; with coloring, texture or other design qualities or components that cannot be removed without destroying the glazing material; and with a surface, or assembly into which it is incorporated, that is divided into segments.

Staff Analysis: The IBC definition was added to the proposal as a modification by the CCC committee. See CCC Item IRC9-22.

Reason Statement: Nowhere in the IRC does it refer to “decorative glass”. This subject only comes up in Section R308 and R609.3 and it refers to “decorative glazing” or “decorative glazed openings”. This proposal simply aligns the defined term with the term used in the body of the IRC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not change the intent or application of the code as it has been customarily interpreted, therefore it has no impact on the cost of construction.

CCCIBC10-22

IBC: 2308.2.6

Proponents: Julie Furr, representing FEMA-ATC Seismic Code Support Committee (jfurr@rimkus.com); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

2021 International Building Code

Revise as follows:

2308.2.6 Risk category limitation. The use of the provisions for *conventional light-frame construction* in this section shall not be permitted for *Risk Category* IV buildings assigned to a *Seismic Design Category* other than A. ~~B, C, D or F.~~

Reason Statement: This proposal is an editorial change that removes ambiguity from this section and does not change the technical requirements or limitations. This is consistent with the intent as stated in the 2018 IBC Commentary, "Risk Category IV structures that are not classified as Seismic Design Category A would therefore require an engineered design."
In practice, Risk Category IV structures will never be assigned to SDC E. However, as it is currently written, users unfamiliar with how SDC's are determined have occasionally interpreted this as stating RC IV structures in SDC E were not subject to this limitation. This revision in wording removes the potential for misinterpretation by making it clear that RC IV structures only in SDC A are permitted to use Section 2308.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial change to clarify the intent of the section and does not impose any new technical requirements.

CCCIBC11-22

IBC: 2308.5.6, 2308.6.4

Proponents: David Tyree, representing American Wood Council (dtyree@awc.org)

2021 International Building Code

Revise as follows:

2308.5.6 Cripple walls. Foundation *cripple walls* shall be framed of studs that are not less than the size of the ~~studding~~ studs above. Exterior *cripple wall* studs shall be not less than 14 inches (356 mm) in length, or shall be framed of solid blocking. Where exceeding 4 feet (1219 mm) in height, such walls shall be framed of studs having the size required for an additional *story*. See Section 2308.6.6 for *cripple wall* bracing.

2308.6.4 Braced wall panel construction. For Methods DWB, WSP, SFB, PBS, PCP and HPS, each panel must be not less than 48 inches (1219 mm) in length, covering three stud spaces where studs are spaced 16 inches (406 mm) on center and covering two stud spaces where studs are spaced 24 inches (610 mm) on center. *Braced wall panels* less than 48 inches (1219 mm) in length shall not contribute toward the amount of required bracing. *Braced wall panels* that are longer than the required length shall be credited for their actual length. For Method GB, each panel must be not less than 96 inches (2438 mm) in length where applied to one side of the studs or 48 inches (1219 mm) in length where applied to both sides.

Vertical joints of panel sheathing shall occur over studs and adjacent panel joints shall be nailed to common framing members. Horizontal joints shall occur over blocking or other framing equal in size to the studs ~~studding~~ except where waived by the installation requirements for the specific sheathing materials. Sole plates shall be nailed to the floor framing in accordance with Section 2308.6.7 and top plates shall be connected to the framing above in accordance with Section 2308.6.7.2. Where joists are perpendicular to *braced wall lines* above, blocking shall be provided under and in line with the braced *wall panels*.

Reason Statement: Editorial change to replace the term “studding” with “stud” which is the correct terminology.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This editorial change uses common terminology for studs.

CCCIBC12-22

IBC: CHAPTER 25, 2501.1, 2502.1, 2503.1, 2504.1, 2504.1.1, 2504.1.2, 2505.1, 2505.2, SECTION 2506, 2506.1, 2506.2, TABLE 2506.2, 2508.1, TABLE 2508.1, 2508.3, 2508.4, 2508.5, 2508.6, TABLE 2508.6, 2508.6.2, 2508.6.3, 2508.6.4, 2508.6.5

Proponents: Tim Earl, representing the Gypsum Association (tearl@gbhint.com)

2021 International Building Code

Revise as follows:

CHAPTER 25
~~GYPSUM BOARD,~~ GYPSUM PANEL PRODUCTS AND PLASTER

2501.1 Scope. Provisions of this chapter shall govern the materials, design, construction and quality of ~~*gypsum board,*~~ *gypsum panel products*, lath, *gypsum plaster*, *cement plaster* and reinforced gypsum concrete.

2502.1 General. Lathing, plastering and ~~*gypsum board* and~~ *gypsum panel product* construction shall be done in the manner and with the materials specified in this chapter and, where required for fire protection, shall comply with the provisions of Chapter 7.

2503.1 Inspection. Lath~~, *gypsum board*~~ and *gypsum panel products* shall be inspected in accordance with Section 110.3.6.

2504.1 Scope. The following requirements shall be met where construction involves ~~*gypsum board,*~~ *gypsum panel products* or lath and plaster in vertical and *horizontal assemblies*.

2504.1.1 Wood framing. Wood supports for lath~~, *gypsum board*~~ or *gypsum panel products*, as well as wood stripping or furring, shall be not less than 2 inches (51 mm) nominal thickness in the least dimension.

Exception: The minimum nominal dimension of wood furring strips installed over solid backing shall be not less than 1 inch by 2 inches (25 mm by 51 mm).

2504.1.2 Studless partitions. The minimum thickness of vertically erected studless solid plaster partitions of $^{3}/_{8}$-inch (9.5 mm) and $^{3}/_{4}$-inch (19.1 mm) rib metal lath, $^{1}/_{2}$-inch-thick (12.7 mm) gypsum lath~~, *gypsum board*~~ or *gypsum panel product* shall be 2 inches (51 mm).

2505.1 Resistance to shear (wood framing). Wood-frame *shear walls* sheathed with ~~*gypsum board,*~~ *gypsum panel products* or lath and plaster shall be designed and constructed in accordance with Section 2306.3 and are permitted to resist wind and seismic *loads*. Walls resisting seismic *loads* shall be subject to the limitations in Section 12.2.1 of ASCE 7.

2505.2 Resistance to shear (steel framing). Cold-formed steel-frame shear walls sheathed with ~~*gypsum board or*~~ *gypsum panel products* and constructed in accordance with the materials and provisions of Section 2211.1.1 are permitted to resist wind and seismic *loads*. Walls resisting seismic *loads* shall be subject to the limitations in Section 12.2.1 of ASCE 7.

SECTION 2506
~~GYPSUM BOARD AND~~ GYPSUM PANEL PRODUCT MATERIALS

2506.1 General. *Gypsum ~~board, gypsum~~ panel products* and accessories shall be identified by the manufacturer's designation to indicate compliance with the appropriate standards referenced in this section and stored to protect such materials from the weather.

2506.2 Standards. *Gypsum ~~board and gypsum~~ panel products* shall conform to the appropriate standards listed in Table 2506.2 and Chapter 35 and, where required for fire protection, shall conform to the provisions of Chapter 7.

TABLE 2506.2 ~~GYPSUM BOARD AND~~ GYPSUM PANEL PRODUCTS , MATERIALS AND ACCESSORIES

MATERIAL	STANDARD
Accessories for gypsum board	ASTM C1047
Adhesives for fastening gypsum board	ASTM C557
Cold-formed steel studs and track, structural	AISI S240
Cold-formed steel studs and track, nonstructural	AISI S220
Elastomeric joint sealants	ASTM C920
Expandable foam adhesives for fastening gypsum wallboard	ASTM D6464
Factory-laminated gypsum panel products	ASTM C1766
Fiber-reinforced gypsum panels	ASTM C1278
Glass mat gypsum backing panel	ASTM C1178
Glass mat gypsum panel 5	ASTM C1658
Glass mat gypsum substrate	ASTM C1177
Joint reinforcing tape and compound	ASTM C474; C475
Nails for gypsum boards	ASTM C514, F547, F1667
Steel screws	ASTM C954; C1002
Standard specification for gypsum board	ASTM C1396
Testing gypsum and gypsum products	ASTM C22; C472; C473

2508.1 General. *Gypsum ~~board, gypsum~~ panel products* and *gypsum plaster* construction shall be of the materials listed in Tables 2506.2 and 2507.2. These materials shall be assembled and installed in compliance with the appropriate standards listed in Tables 2508.1 and 2511.1.1 and Chapter 35.

TABLE 2508.1 INSTALLATION OF GYPSUM CONSTRUCTION

MATERIAL	STANDARD
G~~ypsum board and g~~ypsum panel products	GA 216; ASTM C840
Gypsum sheathing and gypsum panel products	ASTM C1280
Gypsum veneer base	ASTM C844
Interior lathing and furring	ASTM C841
Steel framing for ~~gypsum board and~~ gypsum panel products	ASTM C754; C1007

2508.3 Single-ply application. Edges and ends of ~~*gypsum board* and~~ *gypsum panel products* shall occur on the framing members, except those edges and ends that are perpendicular to the framing members. Edges and ends of ~~*gypsum board* and~~ *gypsum panel products* shall be in moderate contact except in concealed spaces where fire-resistance-rated construction, shear resistance or *diaphragm* action is not required.

2508.4 Adhesives. ~~*Gypsum board* and~~ *gypsum panel products* secured to framing with adhesives in ceiling assemblies shall be attached using an approved fastening schedule. Expandable foam adhesives for fastening *gypsum wallboard* shall conform to ASTM D6464. Other adhesives for the installation of *gypsum wallboard* shall conform to ASTM C557.

2508.5 Joint treatment. ~~*Gypsum board* and~~ *gypsum panel product* fire-resistance-rated assemblies shall have joints and fasteners treated.

Exception: Joint and fastener treatment need not be provided where any of the following conditions occur:

1. Where the ~~*gypsum board* or the~~ *gypsum panel product* is to receive a decorative finish such as wood paneling, battens, acoustical finishes or any similar application that would be equivalent to joint treatment.
2. On single-layer systems where joints occur over wood framing members.
3. Square edge or tongue-and-groove edge *gypsum board* (V-edge), *gypsum panel products*, gypsum backing board or *gypsum sheathing*.
4. On multilayer systems where the joints of adjacent layers are offset.
5. Assemblies tested without joint treatment.

2508.6 Horizontal ~~gypsum board or~~ gypsum panel product diaphragm ceilings. ~~*Gypsum board or g*~~*ypsum panel products* shall be permitted to be used on wood joists to create a horizontal *diaphragm* ceiling in accordance with Table 2508.6.

TABLE 2508.6 SHEAR CAPACITY FOR HORIZONTAL WOOD-FRAME GYPSUM ~~BOARD~~ PANEL PRODUCT DIAPHRAGM CEILING ASSEMBLIES

MATERIAL	THICKNESS OF MATERIAL (MINIMUM) (inches)	SPACING OF FRAMING MEMBERS (inches)	SHEAR VALUE[a, b] (PLF OF CEILING)	MIMIMUM FASTENER SIZE
G~~ypsum board or~~ gypsum panel product	$^1/_2$	16 o.c.	90	5d cooler or wallboard nail; $1^5/_8$-inch long; 0.086-inch shank; $^{15}/_{64}$-inch head[c]
G~~ypsum board or~~ gypsum panel product	$^1/_2$	24 o.c.	70	5d cooler or wallboard nail; $1^5/_8$-inch long; 0.086-inch shank; $^{15}/_{64}$-inch head[c]

For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.59 N/m.

a. Values are not cumulative with other horizontal *diaphragm* values and are for short-term wind or seismic loading. Values shall be reduced 25 percent for normal loading.

b. Values shall be reduced 50 percent in Seismic Design Categories D, E and F.

c. $1^1/_4$-inch, No. 6 Type S or W screws are permitted to be substituted for the listed nails.

2508.6.2 Installation. *~~Gypsum board or~~ gypsum panel products* used in a horizontal *diaphragm* ceiling shall be installed perpendicular to ceiling framing members. End joints of adjacent courses of *gypsum ~~board~~ panel products* shall not occur on the same joist.

2508.6.3 Blocking of perimeter edges. Perimeter edges shall be blocked using a wood member not less than 2-inch by 6-inch (51 mm by 152 mm) nominal dimension. Blocking material shall be installed flat over the top plate of the wall to provide a nailing surface not less than 2 inches (51 mm) in width for the attachment of the *~~gypsum board or~~ gypsum panel product*.

2508.6.4 Fasteners. Fasteners used for the attachment of *~~gypsum board or~~ gypsum panel products* to a horizontal *diaphragm* ceiling shall be as defined in Table 2508.6. Fasteners shall be spaced not more than 7 inches (178 mm) on center at all supports, including perimeter blocking, and not more than $^3/_8$ inch (9.5 mm) from the edges and ends of the *~~gypsum board or~~ gypsum panel product*.

2508.6.5 Lateral force restrictions. *~~Gypsum board or~~ gypsum panel products* shall not be used in *diaphragm* ceilings to resist lateral forces imposed by masonry or concrete construction.

Reason Statement: Another proposal this cycle revises the IBC definitions for gypsum products to match the correct terms used in industry publications. The definition of Gypsum Panel Product makes it clear that Gypsum Board is a subset of Gypsum Panel Product. As such, this is one of several proposals to remove Gypsum Board throughout the IBC whenever it reads as “Gypsum Board and Gypsum Panel Product” because the first item is a subset of the second item.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This simply removes redundant wording from the code.

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IBC: TABLE 2506.2

Proponents: Tim Earl, representing the Gypsum Association (tearl@gbhint.com)

2021 International Building Code

Revise as follows:

TABLE 2506.2 GYPSUM BOARD AND GYPSUM PANEL PRODUCTS MATERIALS AND ACCESSORIES

MATERIAL	STANDARD
Accessories for gypsum board	ASTM C1047
Adhesives for fastening gypsum board to wood framing	ASTM C557
Cold-formed steel studs and track, structural	AISI S240
Cold-formed steel studs and track, nonstructural	AISI S220
Elastomeric joint sealants	ASTM C920
Expandable foam adhesives for fastening gypsum wallboard to wood framing	ASTM D6464
Factory-laminated gypsum panel products	ASTM C1766
Fiber-reinforced gypsum panels	ASTM C1278
Glass mat gypsum backing panel	ASTM C1178
Glass mat gypsum panels 5	ASTM C1658
Glass mat gypsum substrate used as sheathing	ASTM C1177
Joint reinforcing tape and compound	ASTM C474; C475
Nails for gypsum boards	ASTM C514, F547, F1667
Steel screws	ASTM C954; C1002
Standard specification for gypsum board	ASTM C1396
Testing gypsum and gypsum products	ASTM C22; C472; C473

Reason Statement: Apparent typo. The number 5 makes no sense and was likely meant to be the letter "s" which matches the title of the standard listed.
We also reviewed the other gypsum-related standards in this table and corrected other titles where they did not match.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simple editorial correction.

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