

1

---

---

---

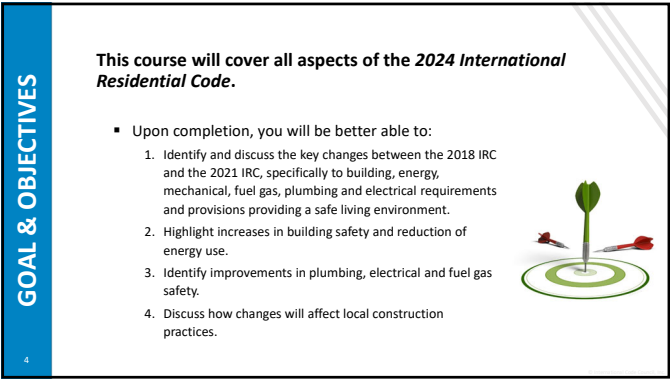
---

---

---

---

---



4

---

---

---

---

---

---

---

---



5

---

---

---

---

---

---

---

---

INSTRUCTOR

Sandra Hyde, PE

Managing Director of Product Development  
International Code Council  
[shyde@iccsafe.org](mailto:shyde@iccsafe.org)  
(Mobile) 971-645-8041



6

---

---

---

---

---

---

---

About You

What do you do on a typical day?

- Plans examiner
- Inspector
- Building official
- Permit tech
- Designer
- Builder
- Specialty contractor
- Architect & Engineer
- Manufacturer
- Other government position

7

---

---

---

---

---

---

---

About You

How many years have you worked in the construction industry?

- 0-5
- 6-10
- 11-20
- 21-30
- 30+

8

---

---

---

---

---

---

---

9

### About You

Where in the United States do you work?

- Northwest
- Midwest
- Northeast
- Central US
- Southwest
- South

- Southeast
- US territory
- Canada
- Other countries

9

---

---

---

---

---


---

---

COURSE OUTLINE

10

- Chapters 1 – 2 : Admin and Definitions
- Chapters 3 – 9 : Building
- Chapters 12 – 23 : Mechanical
- Chapter 24 : Fuel Gas
- Chapters 25 – 33 : Plumbing
- Chapters 34 – 43 : Electrical
- Appendices



10

---

---

---

---

---

---

---

### Selection of Topics

- Provisions addressed based primarily on:
  - Frequency of application
  - Special significance
  - Change in application

11

---

---

---

---

---

---

---

12

### Identifying Changes within the IRC

- Print editions of the 2024 IRC replace margin markings with QR codes to identify code changes
- A QR code is placed at the beginning of a section with changes.


**SECTION 104—DUTIES AND POWERS OF BUILDING OFFICIAL**

**[A] 104.1 General.** The building official is hereby authorized and directed to enforce the provisions of this code.

**[A] 104.2 Determination of compliance.** The building official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

**[A] 104.3.1 Listed compliance.** Where this code or a referenced standard requires equipment, materials, products or services to be listed and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria.



9ca0202

12

---

---

---

---

---

---


---

---

13

### Administration and Definitions

Chapters 1 and 2



13

---

---

---

---

---

---


---

---

14

### R103 Code Compliance Agency

- Section language updated from 'Department of Building Safety' to 'Code Compliance Agency'
- Uses more generic language for states and local jurisdictions using terms other than a department of building safety



14

---

---

---

---

---

---

---

---

15

R104.1 General	<u>R104.2.2.6 Reports</u>
<u>R104.2 Determination of compliance</u>	<u>R104.2.2.6.1 Evaluation reports</u>
<u>R104.2.1 Listed compliance</u>	<u>R104.2.2.6.2 Other reports</u>
<u>R104.2.2 <del>R104.1</del> Alternative materials, design and methods of construction and equipment</u>	<u>R104.2.3 <del>R104.1</del> Modifications</u>
<u>R104.2.2.1 Approval authority</u>	<u>R104.2.3.1 <del>R104.10.1</del> Flood hazard areas</u>
<u>R104.2.2.2 Application and disposition</u>	<u>R104.3 <del>R104.2</del> Applications and permits</u>
<u>R104.2.2.3 Compliance with code intent</u>	<u>R104.4 <del>R104.6</del> Right of entry</u>
<u>R104.2.2.4 Equivalency criteria</u>	<u>R104.4.1 Warrant</u>
<u>R104.2.2.5 <del>R104.11.1</del> Tests</u>	<u>R104.5 Identification</u>
	<u>R104.6 <del>R104.3</del> Notices and orders</u>

16

- R104.7 Official Department records
  - R104.7.1 Approvals
  - R104.7.2 Inspections
  - R104.7.3 Code alternatives and modifications
  - R104.7.4 Tests
  - R104.7.5 Fees
- R104.8 Liability
  - R104.8.1 Legal defense
- R104.9 Approved materials and equipment
  - R104.9.1 Materials and equipment reuse

17

17

CODE CHANGE

R104.2.1 Listed compliance

Where this code or a referenced standard requires equipment, materials, products or services to be listed and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the building official.

- Listing and labelling language

18

---

---

---

---

---

---

---

---

CODE CHANGE

R104.2.2.1 Approval Authority

An alternative material, design or method of construction shall be approved where the building official finds that the proposed alternative is satisfactory and complies with Sections 104.2.2 through 104.2.2.7, as applicable.

- Approval by building official language

19

---

---

---

---

---

---

---

---

CODE CHANGE

R104.2.2.4 Equivalency criteria

An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety, other than fire safety
6. Fire safety

- Equivalency requirements

20

---

---

---

---

---

---

---

---

R104.2.2.5 ~~R104.11.1~~ Tests

Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Such tests shall be performed by a party acceptable to the building official.

- Testing requirements to prove equivalency. Requires building official approval of the group doing the testing.

21

---

---

---

---

---

---

---

---

R111 Service Utilities

- Terms ‘water system’ and ‘sewer system’ are added for clarity



22

---

---

---

---

---

---

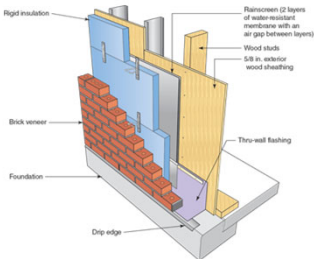
---

---

R202 Rainscreen System

Rainscreen

- Defined to clarify the difference between this specific system and having an airspace behind cladding



23

---

---

---

---

---

---

---

---

24

### R202 Rainscreen System

- An assembly applied to the exterior side of an exterior wall which consists of, at minimum, two layers and a cavity between them sufficient for the passive removal of liquid water and water vapor.
- Adds alternative to a required airspace behind siding and veneer

The diagram illustrates a cross-section of a wall assembly. From left to right, it shows: a foundation, brick veneer, rigid insulation, a rainscreen consisting of two layers of water-resistant membrane with an air gap between them, wood studs, a sill in exterior wall mounting, thin wall finishing, and a drip edge at the bottom.

24

---

---

---

---

---

---

---

25

CODE CHANGE

### RAINSCREEN

An assembly applied to the exterior side of an exterior wall which consists of, at minimum, an outer layer, an inner layer, and a cavity between them sufficient for the passive removal of liquid water and water vapor.

25

---

---

---

---

---

---

---

26

### Design Requirements

Chapter 3

26

---

---

---

---

---

---

---



Chapter 3 Reorganization



27

27

---

---

---

---

---

---

---

Chapter 3 Reorganization

R301-R307 Structural including Passive Fire Resistance

R308-R311 Active Fire Resistance

R312-R317 Rooms and spaces

R318-R321 Means of egress

R322-R323 Accessibility/Elevators

R324-R328 Home Safety

R329-R332 Energy



28

28

---

---

---

---

---

---

---

Chapter 3 Building Planning Reorganization

Section 301 Design Criteria

Section R302 Fire-resistant Construction

Section ~~R303~~ ~~R316~~ Foam Plastic

Section ~~R304~~ ~~R317~~ Protection Of Wood And Wood-based Products Against Decay

Section ~~R305~~ ~~R318~~ Protection Against Subterranean Termites

Section ~~R306~~ ~~R322~~ Flood-resistant Construction

Section ~~R307~~ ~~R323~~ Storm Shelters

Section ~~R308~~ ~~R319~~ Site Address

Section ~~R309~~ ~~R313~~ Automatic Fire Sprinkler Systems

29

29

---

---

---

---

---

---

---

30

Chapter 3 Reorganization

Section ~~R310~~ ~~R314~~ Smoke Alarms

Section ~~R311~~ ~~R315~~ Carbon Monoxide Alarms

Section ~~R312~~ ~~R304~~ Minimum Room Areas

Section ~~R313~~ ~~R305~~ Ceiling Height

Section ~~R314~~ ~~R325~~ Mezzanines

Section ~~R315~~ ~~R323~~ Habitable Attics

Section ~~R316~~ ~~R309~~ Garages and Carports

Section ~~R317~~ ~~R311~~ Means Of Egress

Section ~~R318~~ ~~R310~~ Emergency Escape And Rescue Openings

Section ~~R319~~ ~~R312~~ Guards And Window Fall Protection

30

---

---

---

---

---

---

---

---

31

Chapter 3 Reorganization

Section R320 Accessibility

Section ~~R321~~ Elevators And Platform Lifts

Section ~~R322~~ ~~R308~~ Glazing

Section ~~R323~~ ~~R303~~ Light, Ventilation and Heating

Section ~~R324~~ ~~R306~~ Sanitation

Section ~~R325~~ ~~R307~~ Toilet, Bath And Shower Spaces

Section ~~R326~~ ~~R327~~ Swimming Pools, Spas And Hot Tubs

Section ~~R327~~ ~~R324~~ Solar Energy Systems

Section R328 Energy Storage Systems

Section ~~R329~~ Stationary Engine Generators

Section ~~R330~~ Stationary Fuel Cell Power Systems

31

---

---

---

---

---

---

---

---

32

Chapter 3 Reorganization

Structural

Fire

Rooms & Spaces

Topic	2024 IRC Section	2021 IRC Section
Design Criteria	R301	R301
Fire-Resistant Construction	R302	R302
Foam Plastic	R303	R316
Protection of Wood and Wood-Based Products Against Decay	R304	R317
Protection Against Subterranean Termites	R305	R318
Flood-Resistant Construction	R306	R322
Storm Shelters	R307	R323
Site Address	R308	R319
Automatic Sprinkler Systems	R309	R313
Smoke Alarms	R310	R314
Carbon Monoxide Alarms	R311	R315
Minimum Room Areas	R312	R304
Ceiling Height	R313	R305
Mezzanines	R314	R325
Sleeping Lofts	R315	-
Habitable Attics	R316	R326
Garages and Carports	R317	R309

32

---

---

---

---

---

---

---

---

Chapter 3 Reorganization			
	Topic	2024 IRC Section	2021 IRC Section
Means of Egress	Means of Egress	R318	R311
	Emergency Escape and Rescue Openings	R319	R310
	Handrails	R320	R311
Accessibility/Elevators	Guards and Window Fall Protection	R321	R312
	Accessibility	R322	R320
	Elevators and Platform Lifts	R323	R321
Home Safety	Glazing	R324	R308
	Light, Ventilation and Heating	R325	R303
	Sanitation	R326	R306
	Toilet, Bath and Shower Spaces	R327	R307
	Swimming Pools, Spas and Hot Tubs	R328	R327
Energy	Solar Energy Systems	R329	R324
	Energy Storage Systems	R330	R328
	Stationary Engine Generators	R331	R329
	Stationary Fuel Cell Power Systems	R332	R330

33

---

---

---

---

---

---


---

---

34

## Structural Loads

Section R301



© International Code Council, Inc.

34

---

---

---

---

---

---

---

---

35

## Wind Loads on Low-rise Buildings

- MWFRS – main wind-force resisting systems
- C&C – components and cladding

Some elements are both MWFRS and C&C and must be designed for governing conditions

MWFRS	C&C (not part of MWFRS)
Diaphragms	Lateral framing (studs and connections)
Shear walls	Suction on wall/roof sheathing & cladding
Moment frames	Rafters and purlins
Braced frames	Curtain walls
Roof framing uplift (>3:12 slope)	Roof framing uplift (<3:12 slope)

35

---

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY11

36

### Wind Loads on Low-rise Buildings

- C&C loads
  - Lateral loads on studs
  - Fasteners of studs to framing
  - Sheathing and its fasteners
  - Gable endwall overhangs
  - Suction on rafters/purlins
  - Roof uplift connectors
    - <3:12 slope, or
    - Roof joists supported by ridge beam and exterior wall

Courtesy of American Wood Council

36

---

---

---

---

---

---

---

---

37

### Table R301.2.1(1) Components and Cladding

- Wind pressure increases with greater height in Exposure B while negative (suction) pressures are reduced on roofs

	Zone	Effective Wind Area (ft <sup>2</sup> )	Ultimate Design Wind Speed, V <sub>ult</sub> (mph)					
			90		95		100	
			POS	NEG	POS	NEG	POS	NEG
Flat and Gable Roof 0 to <7 degrees	1, 1'	10	3.6	-13.9	4	-15.5	4.4	-17.2
	1, 1'	20	3.3	-12.4	3.7	-13.8	4.1	-15.3
	1, 1'	50	3	-10.3	3.4	-11.5	3.8	-12.7
	1, 1'	100	2.8	-8.7	3.1	-9.7	3.5	-10.8
	2	10	3.6	-18.4	4	-20.5	4.4	-22.7
	2	20	3.3	-16.4	3.7	-18.2	4.1	-20.2
	2	50	3	-13.7	3.4	-15.3	3.8	-16.9
	2	100	2.8	-11.7	3.1	-13.2	3.5	-14.4

37

---

---

---

---

---

---

---

---

38

### Table R301.2.1(2) Components and Cladding

- Exposure coefficients decreased for taller buildings

Mean Roof Height	Exposure		
	B	C	D
15	0.82	1.21	1.47
20	0.89	1.29	1.55
25	0.94	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	<del>1.09</del> 1.06	1.49	1.74
45	<del>1.12</del> 1.10	1.53	1.78
50	<del>1.16</del> 1.13	1.56	1.81
55	<del>1.19</del> 1.16	1.59	1.84
60	<del>1.22</del> 1.19	1.62	1.87

38

---

---

---

---

---

---

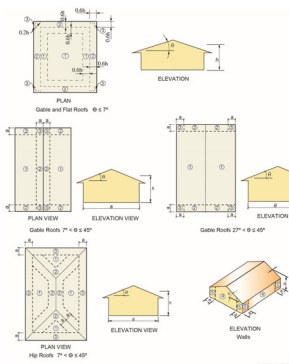
---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY12

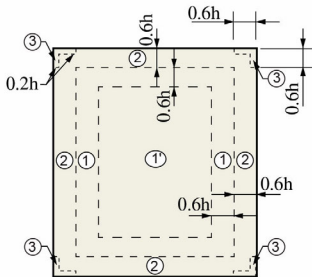
Figure R301.2.1  
Components and  
Cladding



39

Figure R301.2.1 Components and Cladding

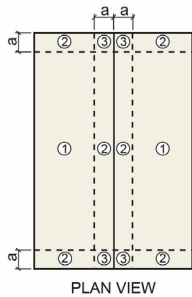
Flat roof zones 0 to 7 degrees  
(1.5:12 slope or less)



40

Figure R301.2.1 Components and Cladding

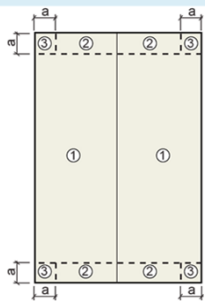
Gable Roof 7 to 27 degrees  
(1.5:12 to 6:12 slope)



41

Figure R301.2.1 Components and Cladding

Gable Roof 27 to 45 degrees  
(6:12 to 12:12 slope)



---

---

---

---

---

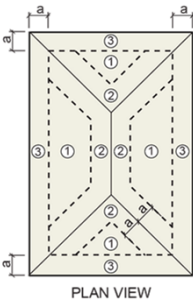
---

---

42

Figure R301.2.1 Components and Cladding

Hip Roof 7 to 45 degrees  
(1.5:12 to 12:12 slope)



---

---

---

---

---

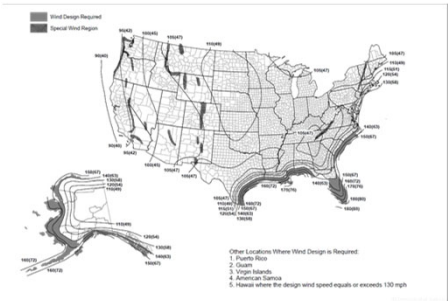
---

---

43

Figure R301.2.1.1 Wind Design Required

Areas of the gulf coast and Alaska that require structural design for wind loads are updated



---

---

---

---

---

---

---

44

CODE CHANGE

45

Figure R301.2(2) Ultimate Wind Speed

**Figure R301.2(2)**  
Figure updated to match wind loads in the IBC and ASCE 7

Special Wind Region

Location: Atlantic, Pacific, Gulf, Central, Mountain, Arctic

Exposure Category: B, C, D

Return Period: 10, 25, 50, 100, 200, 500, 1000

45

---

---

---

---

---

---

---

---

CODE CHANGE

46

Wind Speed Comparison – RC II

Legend

ASCE 7-16 700 Year

ASCE 7-22 700 Year

46

---

---

---

---

---

---

---

---

EXAMPLE

47

Coastal Wind Speeds

Location	Risk Cat. I (200-year)	Risk Cat. II (500-year)	Risk Cat. IV (3,000-year)
Bar Harbor, Maine	109	119	121
Hampton Beach, New Hampshire	113	124	125
Boston, Massachusetts	116	125	129
Provincetown, Massachusetts	122	138	141
Norwich, Rhode Island	124	139	140
New Haven, Connecticut	120	129	133
Southampton, New York	129	138	140
Manhattan, New York	116	127	130
Atlantic City, New Jersey	126	135	138
Rahokah Beach, Delaware	122	131	136
Ocean City, Maryland	128	136	139
Virginia Beach, Virginia	125	132	138
Wrightsville Beach, North Carolina	146	156	160
Folly Beach, South Carolina	149	158	165
Sat Island, Georgia	131	145	153
Jacksonville Beach, Florida	129	140	149
Melbourne Beach, Florida	152	162	172
Miami Beach, Florida	171	183	191
Key West, Florida	176	200	200
Clearwater, Florida	146	154	160
Palmdale City Beach, Florida	141	146	162
Gulf Shores, Alabama	159	172	181
Biloxi, Mississippi	157	176	177
Indian, Louisiana	138	152	155
Cameron, Louisiana	141	154	157
Galveston, Texas	151	159	166
Port Aransas, Texas	159	157	174

47

---

---

---

---

---

---

---

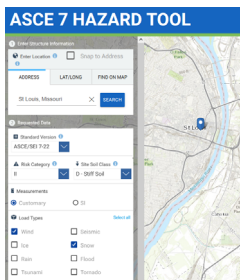
---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY15

R301.2.1.1 Wind Speeds

- Wind speed can be found in the ASCE 7 Hazard Tool or approved equivalent.  
[asce7hazardtool.online](https://asce7hazardtool.online)



48

---

---

---

---

---

---

---

---

R301.2.2 Buildings with Seismic Provisions

- Buildings that are an exception in the IRC scope are added to the seismic provisions for clarity
- Examples:**
- Bed & Breakfasts,
  - Adult Family Homes,
  - Live/Work Units



49

---

---

---

---

---

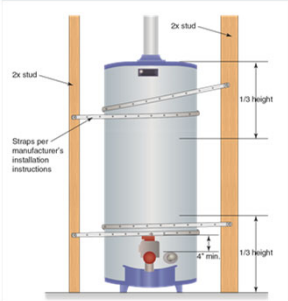
---

---

---

R301.2.2.10 Seismic Restraint

- Anchorage requirements are expanded to include seismic restraint for **all appliances** needing seismic restraint – not solely water heaters and thermal storage units



50

---

---

---

---

---

---

---

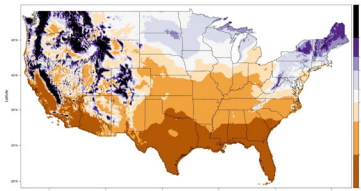
---



51

### R301.2.3 Snow Loads

- The snow load map is updated to show snow loads across the continental United States
- Use of ASCE 7 Hazard Tool OK



51

---

---

---

---

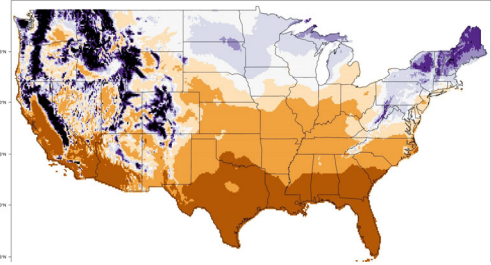
---

---

---

52

### Figure R301.2(3) Snow Loads



52

---

---

---

---

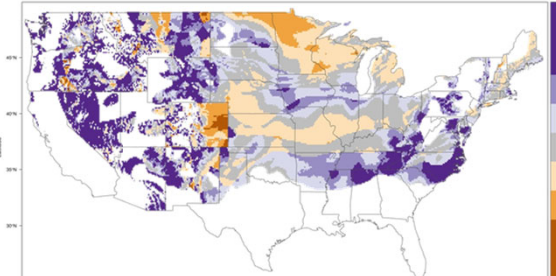
---

---

---

53

### R301.2.3 Snow Loads – Increased/Decreased



53

---

---

---

---

---

---

---

R301.2.3  
Snow Loads

ASCE

ASCE 7 Hazards Report

Address:  
Las Vegas  
Nevada

Standard:  
ASCE/SEI 7-22


Risk Category:  
II


Soil Class:  
Default

Latitude:  
36.17193

Longitude:  
-115.14001

Elevation:  
2011.44 ft (WVD 89)





Snow

Results:

Ground Snow Load,  $S_g$ :

Allowable Stress Design Ground Snow Load:

20 year MSB Value:

Winter Wind Parameter:

Elevation:

Data Source:

Date Accessed:

0.9 lb/ft<sup>2</sup>

0.3 lb/ft<sup>2</sup>

1.23 lb/ft<sup>2</sup>

0.35

2011.4 ft

ASCE/SEI 7-22, Figures 7.6-1 and 7.6-2 A-D

Nov. 24, 2023

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site specific case studies are required to establish ground snow loads at locations not covered.

54

---

---

---

---

---


---

---

---

Fire Protection

Sections R302, R303, R310



55

---

---

---

---

---



---

---

---

R202 Exterior Wall

- Above-grade wall
- Defines exterior boundaries of a building.
- Includes between-floor spandrels, peripheral edges of floors, roof and basement knee walls, dormer walls, gable end walls, gable end roof trusses, walls enclosing a mansard roof and basement walls with an average below-grade wall area < 50% of the total area of that enclosing side.



56

---

---

---

---

---

---

---

---


Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY18

57

### R302.1 Exterior Walls

Measurement of fire separation distance when there are multiple dwellings or townhouse buildings on the same lot is added



57

---

---

---

---

---


---

---

58

### R302.1 Exterior Walls

- For FSD, dwellings and townhouses on the same lot shall be assumed to have an imaginary line between them.
- FSD and requirements of Section R302.1 do not apply to walls separating townhouse units (party walls).



58

---

---

---

---

---

---

---

59

CODE CHANGE

### R302.3 Two-family dwellings

Two-family dwellings have updated fire resistance requirements for improved clarity

59

---

---

---

---

---

---

---

CODE CHANGE

### R302.3.5 Stacked Dwelling Units

Details are added for stacked two-family dwelling units

60

---

---

---

---

---

---

---

CODE CHANGE

### R302.3.6 Shared Accessory Rooms

- Shared accessory rooms and their fire separation requirements are added to the IRC
- These accessory rooms must be separate from both dwelling units
- Intended for laundry, storage spaces and similar spaces



61

---

---

---

---

---

---

---

### Shared Accessory Room Separation

TABLE R302.3.6 Dwelling-Shared Accessory Room Separation

Separation	Material
From the dwelling units and attics	<ul style="list-style-type: none"><li>≥ 1/2-inch gypsum board or equivalent</li><li>Accessory room side wall</li></ul>
From habitable rooms above or below the accessory room	≥ 5/8-inch Type X gypsum board or equivalent
Structures supporting floor/ceiling assemblies used for separation required by this section	≥ 1/2-inch gypsum board or equivalent

62

---

---

---

---

---

---

---

CODE CHANGE

63

### R302.3.6.1 Opening protection

- Openings from a shared accessory room into a sleeping room not be permitted
- Other openings equipped with a self-closing or automatic-closing device and:
  - Solid wood doors not less than 1-3/8 inches in thickness
  - Solid or honeycomb core steel doors not less than 1-3/8 inches thick
  - Fire door assembly with a 20-minute fire-protection rating

63

---

---

---

---

---

---

---

CODE CHANGE

64

### R302.3.6.2 Duct penetration

- Ducts penetrating the walls or ceilings separating the dwelling from the shared accessory room
  - Shall not have openings into the shared accessory room
  - Constructed of a minimum No. 26 gage sheet steel
  - Other approved material

64

---

---

---

---

---

---

---

CODE CHANGE

65

### R302.13 Floor Protection

Exception added for wood floor assemblies less than 600 square feet

65

---

---

---

---

---

---

---

CODE CHANGE

66

R303.1, R303.8 Foam Plastics

New standards for foam plastic materials and their applications are added

66

---

---

---

---

---

---

---

CODE CHANGE

67

R310 Smoke Alarms

- Adds requirement for smoke alarms to meet manufacturers installation instructions
- Clarifies locations for smoke alarms

67

---

---

---

---

---


---

---

68

Flood Hazards

Section R306



68

---

---

---

---

---

---


---

CODE CHANGE

69

R306.2 Flood Hazard Areas

Accessory structures and detached garages are allowed in flood hazard areas with floors below the required lowest floor



69

---

---

---

---

---


---

---

70

R306.2 Flood Elevation Requirements

- Detached garage and accessory structure floor elevation requirements added
- Either:
  - At or above DFE or BSE + 1 ft
  - Below DFE and only used for parking or storage with additional requirements



70

---

---

---

---

---

---


---

CODE CHANGE

71

R306.3 Coastal High Hazard Areas

- New language addresses stem walls in Coastal A zones
- Stem walls in Coastal A zones measure the lowest horizontal structural member at the top of the foundation wall



71

---

---

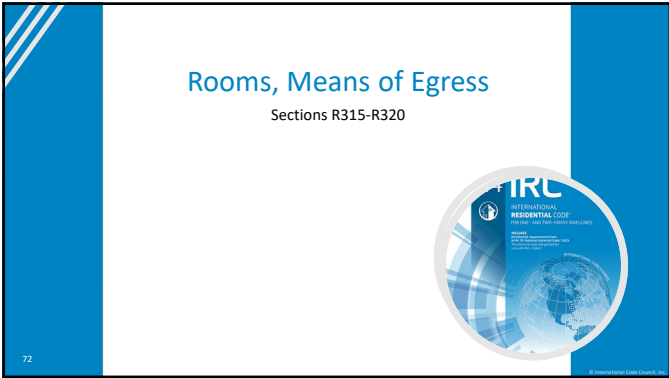
---

---

---

---

---



72

---

---

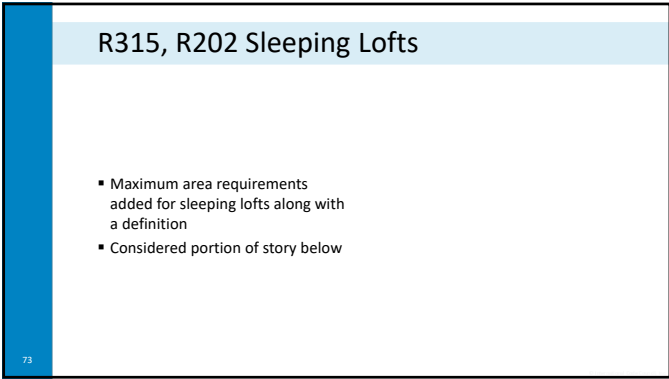
---

---

---

---

---



73

---

---

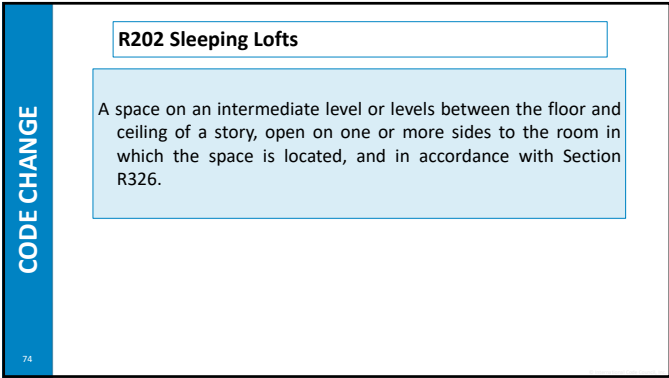
---

---

---

---

---



74

---

---

---

---

---

---

---



75

### R315, R202 Sleeping Lofts

- Qualify as sleeping loft if:
  - Area < 70 ft<sup>2</sup>
  - Ceiling height for < one-half of floor area > 7 ft tall
  - Ceiling height min. 3 ft tall
  - Floor area limited to areas with 3 ft tall ceiling height
  - Permanent means of egress
  - Floor below min. 7 ft ceiling height

75

---

---

---

---

---

---

---

76

### R315 Exception – Small Sleeping Lofts

- Need not comply with Section R326 if all are true:
  - Max depth < 3 feet
  - Floor area < 35 square feet
  - Not provided with a permanent means of egress

76

---

---

---

---

---


---

---

77

### R317 Garages

EV charging stations and automotive lift requirements are added to the IRC to address installation of the equipment



77

---

---

---

---


---

---

---

R317.6, R317.7 EV Charging and Lifts

- EV charging stations must be installed per NEC, listed and labeled per UL 2202 with supply equipment listed and labeled per UL 2594
- Automotive lifts must be listed and labeled per ALI ALCTV



78

---

---

---

---


---

---

---

R318.7.6 Stairway Landings

Introduces the term flight of stairs in lieu of stairway as it pertains to landings.



79

---

---

---

---


---

---

---

R318.7.6 Stair Landings

- Stair landings have all exceptions grouped into one section
  - Top landings may be on the opposite side of a door
  - Landings may be up to 7½ inches below the threshold
  - No top landing required with less than 3 risers
  - Exterior stairs to grade must have a bottom landing



80

---

---

---

---

---

---

---

81

### R318.7.9 Stairways in Existing Buildings

Alterations to existing stairs not required to comply with where the existing space and construction does not allow a reduction in pitch or slope

81

---

---

---

---

---

---

---

82

### R318.8 Ramps

Handrails requirements for ramps are deleted and the ramp section is relocated.

82

---

---

---

---

---

---

---

83

### R320 Handrails

Handrail height and continuity are merged into one single section on handrails

83

---

---

---

---

---

---

---

84

## Accessibility, Elevators

Sections R322-R323



84

84

---

---

---

---

---


---

---

85

## R322 Accessibility

A direct reference links care facilities to accessibility requirements in the IBC.



85

85

---

---

---

---

---

---


---

86

## R322.3 Care Facility Accessibility

**R322.1 Dwelling units or sleeping units.**  
**R322.2 Live/work units.**  
**R322.3 Care facilities.**

- Where permitted
- May use IRC for design
- Must be accessible per Chapter 11 of the *International Building Code* in the care facility portion of the building.



86

86

---

---

---

---

---


---

---

87

### R323 Elevators and Hoistways

- Hoistways added to elevator and platform lift section
- Private residence elevators to conform to ASME A17.1/CSA B44, Section 5.3
- Hoistway enclosures and opening protection to meet ASME A17.1 Sections 5.3.1.1 and 5.3.1.8



87

---

---

---

---

---


---

---

88

### Home Safety

Sections R324-R325



88

---

---

---

---

---

---

---

89

### R324 Screens

- The trigger of 16 square feet in Exception 2 allowing absence of screens with single or multi-layered glazing is deleted
- Any size glazed area in sloped glazing close to vertical does not require a screen

CODE CHANGE

89

---

---

---

---

---

---

---

CODE CHANGE

90

R325 Light, Ventilation and Heating

Light and ventilation are separated into their own sections

90

---

---

---

---

---

---

---

91

Energy

Sections R329-R330

91

---

---

---

---

---

---

---

CODE CHANGE

92

R329.6.4 BIPV Systems

Building-integrated photovoltaic (BIPV) systems should be marked from below to identify hazardous areas for emergency responders.

92

---

---

---

---

---

---

---

**SAFETY IN LAYERS**  
For long-term energy storage, combine the layers of insulation, vapor barrier or heat distribution, fire resistance, and structural strength. And, other measures to help occupants stay safe.

Manufacture information  
Label with working manual  
Ventilation  
Heat distributor  
Drywall  
Impervious protection installed  
Garage floor

Image courtesy of Fine Homebuilding/Kate Francis

93

## 94

[illegible]

95

R330.8 Impact Protection

▪ Back wall minimum clearances

Side Wall

Back Wall

ESS

36"

6"

54"

60"

Subject to Damage

Not Subject to Damage

ESS on Side Wall Within 36" of Back Wall Subject to Damage

Bollard Located to Allow Working Clearance at ESS

96

---

---

---

---

---

---

---

---

R330.8 Impact Protection

▪ Side wall minimum clearances

Side Wall

Return Wall

ESS

36"

6"

60"

Not Subject to Damage

Subject to Damage

ESS on Side Wall out of Driving Path Not Subject to Damage

Return Wall Greater Than Depth of Equipment or Subject To Damage

ESS on Outside of Garage and Within 36" of Driving Area or Front of Parking Spot Subject to Damage

97

---

---

---

---

---

---

---

---

R330.8 Impact Protection

▪ Side wall minimum clearances

Side Wall

Return Wall

ESS

36"

6"

60"

Not Subject to Damage

Subject to Damage

ESS on Side Wall out of Driving Path Not Subject to Damage

Return Wall Greater Than Depth of Equipment or Subject To Damage

ESS on Outside of Garage and Within 36" of Driving Area or Front of Parking Spot Subject to Damage

98

---

---

---

---

---

---

---

---



R330.8 Impact Protection

▪ Side walls with bump-outs

99

---

---

---

---

---

---

---

Foundations

Chapter 4

100

---

---

---

---

---

---

---

R401.4 Soil Tests

For lots with poor soils, a geotechnical report is required to include the site class and  $S_{D5}$  in high seismic areas

101

---

---

---

---

---

---

---

Figure R403.1(1) Foundation Anchorage

- Adds requirement for a concrete slab in a basement or crawl space when walls retain more than 4 feet of backfill.



---

---

---

---

---

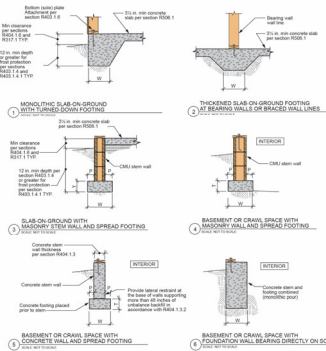
---

---

102

Concrete Footings

Figure R403.1(1) Plain Concrete Footings with Masonry and Concrete Stem Walls in SDC A, B AND C



---

---

---

---

---

---

---

103

R403.1.2 Continuous Footings in SDC D



- Adds table to clarify where continuous footings need to be below interior braced wall lines.

---

---

---

---

---

---

---

104

R403.1.2 Continuous Footings in SDC D

Table R403.1.2 Continuous Footing Requirements in SDC D<sub>0</sub>, D<sub>1</sub>, D<sub>2</sub>

Building Plan Dimensions	1-Story						2-Story						3-Story	
	50 feet or less			> 50 feet			50 feet or less			> 50 feet			Any	
SDC	D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>0</sub>	D <sub>1</sub>
Continuous Footings Supporting Exterior Walls	Required			Required			Required			Required			Required	
Continuous Footings Supporting Required Interior Braced Wall Panels	Not Required			Required <sup>a</sup>			NR	NR	R <sup>a</sup>	Required <sup>a</sup>			Required	

---

---

---

---

---

---

---

---

Footnotes, Table R403.1.2 Continuous Footing Requirements in SDC D<sub>0</sub>, D<sub>1</sub>, D<sub>2</sub>

R = Continuous solid or fully grouted masonry or concrete footings in accordance with Section R403.1.3.4 required.

NR = Continuous footings not required.

a. Buildings shall be permitted to have interior braced wall panels supported on continuous foundations at intervals not exceeding 50 feet provided that the following conditions are all met:

- 1. The height of cripple walls does not exceed 4 feet.
- 2. First-floor braced wall panels are supported on doubled floor joists, continuous blocking or floor beams.
- 3. The distance between bracing lines does not exceed twice the building width measured parallel to the braced wall line.

---

---

---

---

---

---

---

---

Floors, Decks  
Chapter 5



---

---

---

---

---

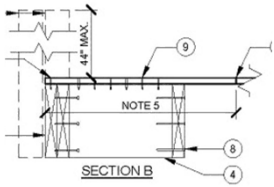
---

---

---

R502.11 Roll Bracing

- Details for bracing a floor when attaching a guard are added
  - Blocking for joists perpendicular to the floor edge
  - Blocking for joists parallel to the floor edge
  - Blocking added between floor joists



108

108

---

---

---

---

---

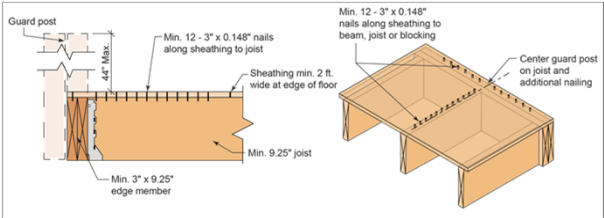
---

---

---

R502.11 Roll Bracing

Guard posts aligned with joists perpendicular to the floor edge



109

109

---

---

---

---

---

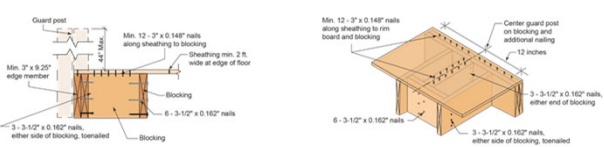
---

---

---

R502.11 Roll Bracing

Roll bracing for guard posts not aligned with joists



110

110

---

---

---

---

---

---

---

---

R502.11 Roll Bracing

Roll bracing for joists parallel to the floor edge

111

111

---

---

---

---

---

---

---

---

R506.2 Post-tensioned Slabs

A referenced standard for post-tensioned slabs on ground is added to the IRC

112

112

---

---

---

---

---

---

---

---

R506.2.3 Vapor Retarder

- The minimum thickness of vapor retarders is changed back to 6 mil

113

113

---

---

---

---

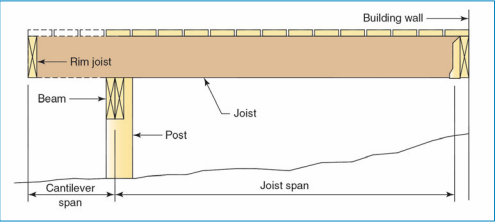
---

---

---

---

R507.5 Beams



The deck beam span table is updated by integrating supported deck joist spans and cantilevers

114

---

---

---

---

---

---

---

---

114

CODE CHANGE

Table R507.5(1) Max Deck Beam Span – 40 psf LL

Beam Species	Beam Size	Joist Span	Joist Span Length & Joist Cantilever Length (feet & feet)				
		8	8 & 0	8 & 1.5 8 & 0	8 & 1	8 & 2	
Southern pine	1-2 x 6	4-10	4-7	4-3	4-0	3-7	
	1-2 x 8	6-4	5-11	5-6	5-1	4-7	
	1-2 x 10	7-6	7-0	6-6	6-0	5-5	
	1-2 x 12	8-8	8-3	7-8	7-1	6-4	
	2-2 x 6	7-4	6-11	6-5	5-11	5-4	
	2-2 x 8	9-4	8-9	8-2	7-7	6-9	
	2-2 x 10	11-0	10-4	9-8	9-0	8-0	
	2-2 x 12	13-0	12-2	11-4	10-7	9-5	
	3-2 x 6	9-0	8-6	7-11	7-5	6-8	
	3-2 x 8	11-7	10-11	10-3	9-6	8-6	
	3-2 x 10	13-11	13-0	12-1	11-2	10-0	
	3-2 x 12	16-3	15-3	14-3	13-3	11-10	

115

---

---

---

---

---

---

---

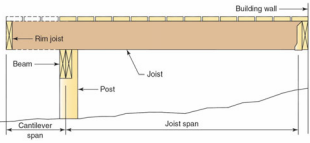
---

115

EXAMPLE

Deck Beam Span

- GSL = 40 psf
- Assume 2 plies of Southern Pine 2x10
- If Joist span is 10' with no cantilever
  - Maximum beam span is **9'-8"**
- If Joist span is 10' with 2.5' cantilever
  - Maximum beam span = **8'-0"**



116

---

---

---

---

---

---

---

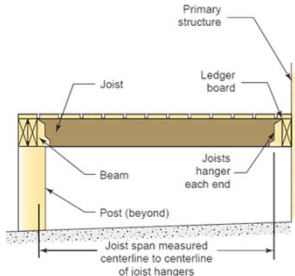
---

116

EXAMPLE

Deck Beam Span

- Interpolation – only joists with no cantilever
- Assume
    - GSL = 40 psf
    - 3 plies of Southern Pine 2x8
    - 11' joist spans
  - Solution
    - 10' joists: Maximum beam length = 10'-3"
    - 12' joists: Maximum beam length = 9'-6"
    - 11' joists: Maximum beam length =  $(10'-3" + 9'-6")/2 = 9'-10"$



---

---

---

---

---

---

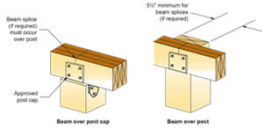
---

---

117

R507.5.1 Deck Beam Bearing

Deck beam bearing requires all plies of a beam to be supported by a post or wall



---

---

---

---

---

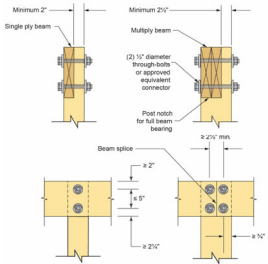
---

---

---

118

R507.5.2 Deck Beam Connections



---

---

---

---

---

---

---

---

119

120

### Post Size at Beam Splice

Beam splice (if required) must occur over post

Approved post cap

Beam over post cap

5/8" minimum for beam splice (if required)

Beam over post

≥ 2 1/2" min

≥ 1 1/2"

- 6x6 or larger required

120

---

---

---

---

---

---

---

121

### Post Size for Bearing at Notch

Minimum 2"

Single ply beam

Minimum 2 1/2"

Multiply beam

(2) 1/2" diameter through-bolts or approved equivalent connector

Post notch for full beam bearing

Beam Plies	Min. Notched Deck Post Size
1	4 x 6
2	6 x 6
3	6 x 8

121

---

---

---

---

---


---

---

122

### R507.9.1 Deck Ledger Flashing and WRBs

- When ledgers attach to existing walls without water-resistive barriers, a water-resistive barrier is installed behind the ledger and ledger flashing.



122

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY40



EXAMPLE

123

R507.2.4 &  
R703.4 Flashing

### Flashing

Courtesy of Journal of Light Construction

123

---

---

---

---

---

---

---

---

R507.9.1.3 Ledger to Band Joist Details

124

Requirements for  
predrilled holes with lag  
screws are added for  
clarity

Water-resistive barrier, lapped over flashing in two layers: one above flashing, one below flashing at base of wall and deck

'L' or " Flashing

Deck joist

Joist hanger

Ledger

Floor joists

Foundation wall

Lag screws or bolts

2" min.

1 1/2" min.

5" max.

2" min.

Minimum 2 in.

Maximum 5 in.

Spacing per Table R507.9.1.3(1)

2 in. min.

5.5 in. min. for 2x8

6.5 in. min. for 2x10

7.5 in. min. for 2x12

3/4 in. min.

1/2 in. lag screw or bolt with washers (hot-dipped galvanized or stainless steel)

Deck joist

Deck ledger

124

---

---

---

---

---

---

---

---

Walls

Chapter 6

125

125

---

---

---

---

---

---

---

---

Table R602.3(1) Roof Sheathing Fastener Schedule

- Fastener spacing applies where roof framing SG ≥ 0.42.
- Where roof framing ≤ 0.42 SG ≤ 0.35, fastening of roof sheathing shall be with RSR5-03 (2½" × 0.131" × 0.281" head) nails.



---

---

---

---

---

---

---

---

126

Table R602.3(1) – Roof Framing Lumber Specific Gravity

TABLE R602.3(1) Fastening Schedule				
Item	Description of Building Elements	Number and Type of Fastener <sup>A,B</sup>	Spacing of Fasteners	
			Edges <sup>C</sup> (inches)	Intermediate supports <sup>C</sup> (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing (see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing)				
31	3/8"-1/2"	Ed common or deformed (2" x 0.113" x 0.266" head); or	6	12 Ø
		2-3/8" x 0.113" x 0.266" head nail (subfloor, wall)		
		Ed common (2-1/2" x 0.131" nail (roof); or RSR5-01 (2-3/8" x 0.113" nail (roof)	6'	6'
32	19/32"-3/4"	Ed common (2-1/2" x 0.131" nail (subfloor, wall)	6	12
		Ed common (2-1/2" x 0.131" nail (roof); or RSR5-01; (2-3/8" x 0.113" nail (roof)	6'	6'
		Deformed 2-3/8" x 0.113" x 0.266" head (wall or subfloor)	6	12

f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in Exposure B or greater than 110 mph in Exposure C. Fastener spacing applies where roof framing specific gravity is 0.42 or larger. Where roof framing specific gravity is greater than or equal to 0.35 but less than 0.42 in accordance with AWG NDS, fastening of roof sheathing shall be with RSR5-03 (2½" × 0.131" × 0.281" head) nails.

---

---

---

---

---

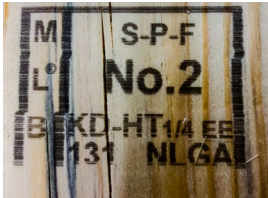
---

---

---

127

SPF vs SPF(S)



Design Values – NDS Supplement  
Grade Stamps – ALSC Facsimile

awc.org  
alsc.org

---

---

---

---

---

---

---

---

128

[illegible]

## R602.10.3.1 Wall Height


Terminology for wall height is clearly defined and updated in the bracing tables with a new figure added for clarity

The diagram illustrates the terminology for wall height in a building structure. It shows a cross-section of a wall assembly. Key components labeled include: Floor sheathing, Floor joists, Floor framing (rafters, trusses, other), Wall top plate, Wall studs, Wall sheath, Wall bottom plate, and Top of ground floor support (concrete masonry foundation, crawl space framing). Dimensions shown are: Story height (from top of ground floor support to top of floor sheathing), Wall height (from wall bottom plate to wall top plate), and Unbraced wall height (from wall bottom plate to floor joists).

[illegible]

### R602.10.3.1 Wall Height

Wall height is the vertical distance from the lower edge of the bottom plate to the upper edge of the upper top plate.



The diagram illustrates a cross-section of a wall assembly. Key components and measurements are labeled:

- Roof trussing**: Includes rafters, ceiling joists, trusses, and girders.
- Wall studs**: Vertical structural members.
- Wall top plate**: The upper horizontal plate.
- Wall bottom plate**: The lower horizontal plate.
- Floor sheathing**: The base layer at the bottom.
- Measurements**:
  - Wall height and story height (Full floor only)**: The total vertical distance from the bottom plate to the top plate.
  - Unbraced wall height**: The vertical distance from the bottom plate to the top plate, excluding the roof trussing.

TOP STORY BELOW THE ROOF

[illegible]

R602.10.3.1 Wall Height

Table R602.10.3(2)

Wind Adjustment Factors Required Length of Wall Bracing

Item Number	Adjustment Based on:	Story/ Supporting	Condition	Applicable Methods
3	Wall Height (Section R602.10.3.1) Story height (Section R301.3)	Any story	8 feet	All methods
			9 feet	
			10 feet	
			11 feet	
			12 feet	

132

---

---

---

---

---

---

---

R602.10.3.1 Wall Height

Table R602.10.3(4)

Seismic Adjustment Factors Required Length of Wall Bracing

Item Number	Adjustment Based on:	Story	Condition	Applicable Methods
1	Wall Height (Section R602.10.3.1) Story height (Section R301.3)	Any story	≤ 10 feet	All methods
			> 10 feet and ≤ 12 feet	

133

---

---

---

---

---

---

---

Table R602.10.5 Minimum Length of Braced Wall Panels

Braced wall panel contributing length calculations are clarified to be based on the full-height sheathed panel section

b. Use the actual length where it is greater than or equal to the minimum length. The actual length of Methods CS-G, CS-WSP, CS-SFB, PFH, PFG, and CS-PF is the length of the full-height sheathed section.

Method (See Table R602.10.4)		Contributing Length (inches)
CS-G		Actual <sup>b</sup>
CS-WSP, CS-SFB		Actual <sup>b</sup>
PFG		1.5 × Actual <sup>b</sup>
CS-PF	SDC A, B, C	1.5 × Actual <sup>b</sup>
	SDC D <sub>0</sub> , D <sub>1</sub> , D <sub>2</sub>	Actual <sup>b</sup>

134

---

---

---

---

---

---

---

R602.10.6 Construction Methods – Alternative BWPs

Header shall not extend over more than one opening



135

---

---

---

---

---

---

---

---

Extent of Portal Frame

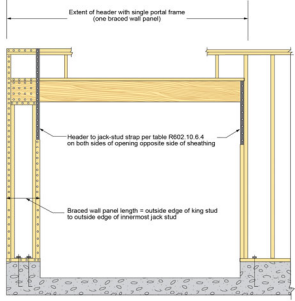


Figure R602.10.6(3) Single Portal Frame at Garage (PGF)

- For determining the ends of a portal frame, a king stud is nailed on either end of the header
- A note is added to each figure to limit header length to a single opening

136

---

---

---

---

---

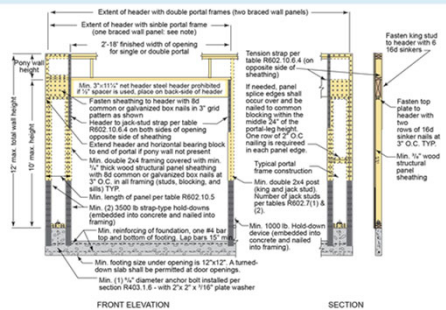
---

---

---

Extent of Portal Frame

Figure R602.10.6(2) Portal Frame with Hold-downs



137

---

---

---

---

---

---

---

---

CODE CHANGE

### Extent of Portal Frame

Braced wall panel (BWP) length is from the outer edge of the outermost stud to the opening

138

138

---

---

---

---

---

---

---

---

### Wall Finishes

Chapter 7

139

139

---

---

---

---

---

---

---

---

### R702.7 Responsive Vapor Barriers

- The term responsive vapor retarder is added
- Use of continuous insulation without a vapor retarder on the exterior side of walls is allowed in some climate zones

140

140

---

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY46

CODE CHANGE

**RESPONSIVE VAPOR RETARDER.** A vapor retarder material complying with a vapor retarder class of Class I or Class II, but which also has a vapor permeance of 1 perm or greater in accordance with ASTM E96, water method (Procedure B)

141

141

---

---

---

---

---

---

---

Table R702.7(5) Continuous Insulation

**Continuous Insulation on Walls Without a Class I, II, or III Interior Vapor Retarder**

Climate Zone	Permitted Conditions: <sup>b,c</sup>
4	Continuous insulation with R-value $\geq 4.5$
5	Continuous insulation with R-value $\geq 6.5$
6	Continuous insulation with R-value $\geq 8.5$
7	Continuous insulation with R-value $\geq 11.5$
8	Continuous insulation with R-value $\geq 14$

142

142

---

---

---

---

---

---

---

R703.2 Water-resistive Barrier

Provide a continuous WRB behind the exterior wall veneer

The diagram illustrates a cross-section of a wall assembly. From left to right, it shows: a foundation with a drip edge; brick veneer attached to a wall; wall ties connecting the brick veneer to a rigid insulation layer; an air gap between the insulation and the water-resistive barrier (WRB); the WRB itself, which is a continuous membrane; wood studs with sheathing (S/B) in the exterior; and three-wall flashing at the base of the wall.

143

143

---

---

---

---

---

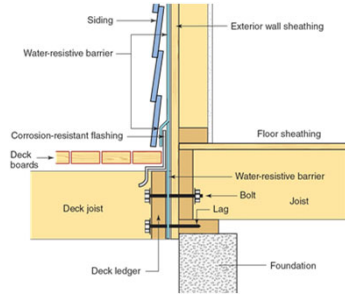
---

---

144

### R703.2 Water-resistive Barrier

Provide a continuous WRB behind deck ledgers



144

---

---

---

---

---

---


---

145

### R703.2 Water-resistive Barrier, Exception

**Exception:**  
WRB not required in unconditioned detached tool sheds, storage sheds, playhouses, and other similar accessory structures if:

1. Exterior wall covering is limited to siding that is attached direct to studs.
2. Exterior walls are uninsulated.
3. Interior side of exterior walls has no wall covering or wall finishes.



145

---

---

---

---

---

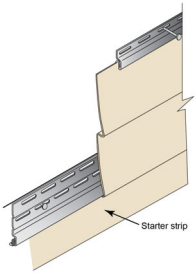
---

---

146

### Exterior Wall Coverings – Vinyl Siding

- Vinyl siding minimum fastening is clarified
- Minimum clearance to wall framing is added



146

---

---

---

---

---

---

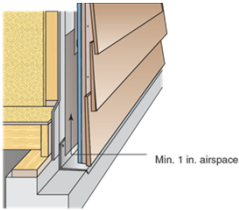
---



CODE CHANGE

R703.3 Siding Clearances – Vinyl Siding

**R703.3.1 Siding clearance at wall and adjacent surfaces.** Unless otherwise specified by the cladding manufacturer or this code, polypropylene, insulated vinyl, and vinyl claddings shall have clearance of at least 6 inches from the ground and at least ½-inch from other adjacent surfaces (decks, roofs, slabs).



147

---

---

---

---


---

---

---

R703.4 Flashing

Flashing application language is revised for clarity



148

---

---

---

---

---

---

---

R703.6.1 Furring over WRBs for Shakes and Shingles

An option is added for gapped horizontal furring over a water-resistive barrier for installation of wood shakes or shingles



149

---

---

---

---

---

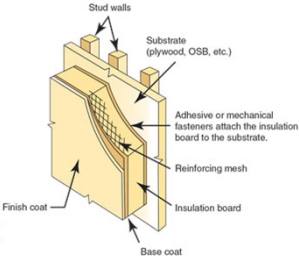
---

---

150

### R703.7.3 Water Resistive Barriers for Stucco

- Water-resistive barrier options for stucco used in dry climates are modified
- The WRB must be separated from stucco by:
  - Drainage space
  - Waterproof layer
  - Foam insulation or
  - Material designed to drain water away from the wall and stucco
- A requirement for flashing is added



150

---

---

---

---

---

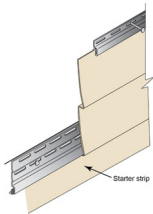
---

---

151

### R703.11, R703.14 Vinyl and Propylene Siding

Details for installation of vinyl and polypropylene siding are added to clarify requirements at edges of openings for attachment of a starter strip



151

---

---

---

---

---

---

---

152


CODE CHANGE

### R703.18 Fiber-mat Reinforced Backer Units

- Cementitious backer board may be used in exterior wall applications

**R703.18 Fiber-mat reinforced cementitious backer units**

Fiber-mat reinforced cementitious backer units used on exterior walls as a substrate for the application of exterior finish materials shall comply with ASTM C1325. Installation shall be in accordance with manufacturer's installation instructions. Backer units shall be installed using corrosion-resistant fasteners. Finish materials shall be installed in accordance with manufacturer's instructions.



152

---

---

---

---

---

---

---

CODE CHANGE

R704 Exterior Soffits and Fascia

Aluminum soffits address in Section R704

Requirements for fascia are added in Section R704.4 mirroring soffit requirements

FASCIA SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R704.4

MIN. 1x2 NAILING STRIP

FRAMING

UNSUPPORTED SPAN LIMITED PER SECTION R704.2.1 OR R704.3.1

VINYL SOFFIT

J-CHANNEL

ATTACH EXTERIOR SOFFIT TO FASCIA OR TO NAILING STRIP (NOT SHOWN)

153

---

---

---

---

---


---

---

---

Roof Finishes

Chapter 9



154

---

---

---

---

---

---


---

---

CODE CHANGE

R902.1 Roof Assemblies

Provisions for classification of roof assemblies are clarified



**R902.1 Roof assemblies covering materials.** Roofs Roof decks shall be covered with materials as set forth in Section Sections R904 and or with roof coverings as set forth in Section R905. Class A, B or C ~~roofing~~ roof assemblies shall be installed in jurisdictions designated by law as requiring their use or where the edge of the roof deck is less than 3 feet (914 mm) from a lot line. Where Class A, B or C roof assemblies are required, they shall be tested in accordance with ASTM E108 or UL 790. Where required, the roof assembly shall be listed and identified as to Class by an approved testing agency. ~~roofing required by this section to be listed shall be tested in accordance with ASTM E108 or UL 790.~~

1. ...

155

---

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY51

156

### R905 Wind Resistance – Clay, Concrete and Slate Roofs

- Roof cladding must resist component and cladding loads
- Cladding sections reference Figure R301.2.1.1, Regions Where Wind Design is Required, and Table R301.2.1(1), Components and Cladding Loads



156

---

---

---

---

---

---

---

157

### Table R905.6.5 Classification of Slate Shingles

Maximum Ultimate Design Wind Speed, $V_{ult}$ , From Figure R301.2(2) (mph)	Maximum Basic Wind Speed, $V_{base}$ , From Table R301.2.1.3 (mph)	ASTM D3161 Classification
110	85	A, D or F
116	90	A, D or F
129	100	A, D or F
142	110	F
155	120	F
168	130	F
181	140	F
194	150	F

157

---

---

---

---

---


---

---

158

### R905.7, R905.8 Wood Shakes and Shingles

- Wind resistance requirements are added
- Sheathing requirements are updated for wood shingles and shakes
- Figure R301.2.1.1, Regions Where Wind Design is Required, and Table R301.2.1(1), Components and Cladding Loads are referenced



158

---

---

---

---

---

---

---

R905.9, R905.10, R905.11 – Wind Resistance

- Explicit requirements for wind resistance are added for built-up and modified bitumen roofing and for metal roof panels
- Cladding sections reference Figure R301.2.1.1, Regions Where Wind Design is Required, and Table R301.2.1(1), Components and Cladding Loads



159

---

---

---

---

---


---

---

159

R905.12, R905.13, R905.14  
Single-ply Liquid and Sprayed Roofing

- Requirements for single-ply roofing are updated
- Wind resistance requirements are added for liquid-applied and sprayed polyurethane foam roofing
- Cladding sections reference Figure R301.2.1.1, Regions Where Wind Design is Required, and Table R301.2.1(1), Components and Cladding Loads
- New testing standard options are added (UL 580 and UL 1897)



160

---

---

---

---

---

---

---

160

R905.12, R905.13, R905.14  
Single-ply Liquid and Sprayed Roofing

TABLE R905.12 Single-ply Roofing Material Standards

Material	Standard
Chlorosulfated polyethylene (CSPE) or polyisobutylene (PIB)	ASTM D5019
Ethylene propylene diene monomer (EPDM)	ASTM D4637
Ketone Ethylene Ester (KEE)	ASTM D6754
Polyvinyl chloride (PVC) or (PVC/KEE)	ASTM D4434
Thermoplastic polyolefin (TPO)	ASTM D6878

161

---

---

---

---

---


---

---

161

R905.15, R905.16 BIPV Roofs

Building-integrated photovoltaic (BIPV) roof panel and shingle provisions are updated to provide minimum deck sheathing and attachment requirements



162

---

---

---

---


---

---

---

R908.3 Roof Replacement

Self-adhering underlayment may be left on when reroofing, if the underlayment meets certain requirements



163

---

---

---

---

---

---

---

R909 Roof Coatings

CODE CHANGE

- A new section lists the ASTM standard applicable to each roof coating referenced in the IRC

SECTION R909

ROOF COATINGS

**R909.1 General.** The installation of a roof coating on a roof covering shall comply with the requirements of Section R902, R904 and this section. Roof coatings shall be installed in accordance with the manufacturer's installation instructions.

**R909.2 Material standards.** Roof coating materials shall comply with one of the standards in Table R909.2.

164

---

---

---

---

---

---

---

R909 Roof Coatings

TABLE R909.2 Roof coating material standards

Coating Material	Standard
Acrylic coating	ASTM D6083
Asphaltic emulsion coating	ASTM D1227
Asphalt coating	ASTM D2823
Asphalt roof coating	ASTM D4479
Aluminum-pigmented asphalt coating	ASTM D2824
Silicone coating	ASTM D6694
Moisture-cured polyurethane coating	ASTM D6947

165

165

---

---

---

---

---

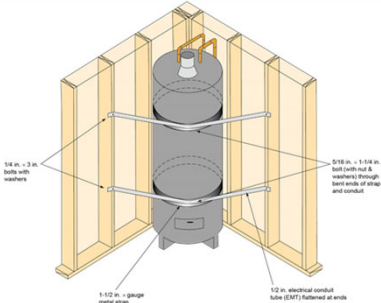
---

---

---

M1307.2 Anchorage of Appliances

Anchorage information for hot water heaters and other appliances is moved to Section R301.2.2.10



172

172

---

---

---

---

---

---

---

---

M1404, Chapter 44  
Refrigeration Cooling Equipment

Refrigeration equipment must be listed and labeled using UL 484, UL1995 or UL/CSA 60335



173

173

---

---

---

---

---

---

---

---

CODE CHANGE

M1404, Chapter 44

Refrigeration Cooling Equipment

SECTION M1404

REFRIGERATION COOLING EQUIPMENT

M1404.1 Compliance.


Refrigeration cooling equipment shall ~~comply be~~ listed and labeled in accordance with ~~UL 484, UL 1995, or UL/CSA 60335-2-40~~ Section M1411.

CHAPTER 44

REFERENCED STANDARDS

UL 484-2019: Standard for Room Air Conditioners

UL/CSA/ANZI 60335-2-40—~~2012~~ 2019: Standard for Household and Similar Electrical Appliances, Safety - Part 2-40: ~~Particular Requirements for Motor compressors~~ Particular requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers



174

---

---

---

---

---

---


---

---

CODE CHANGE

M1411 Approved Refrigerants

Requirements are added for identification of refrigerants



175

---

---

---

---

---

---

---

---

CODE CHANGE

M1411 Approved Refrigerants

M1411.2 Refrigeration system listing.

Refrigeration systems using Group A2L refrigerants shall be listed and labeled to UL 60335-2-40/CAN/CSA C22.2 No. 60335-2-40. Refrigeration systems using Group A1 refrigerants shall be listed to UL 60335-2-40/CAN/CSA C22.2 No. 60335-2-40 or UL 1995/CSA C22.2 No. 236. The equipment shall be installed in accordance with the listing.

M1411.3 Refrigeration system installation.

Refrigeration systems shall be installed in accordance with the manufacturer's installation instructions. After installation, the manufacturer's installation instructions, owner's manuals, service manuals, and any other product literature provided with the equipment shall be attached to the indoor unit or left with the homeowner.

M1411.4 Field installed accessories.

All field installed accessories shall be installed in accordance with the accessory and equipment manufacturer's installation instructions. Accessories installed in the ductwork of Group A2L refrigeration systems shall not contain electric heating elements, open flames, or devices switching electrical loads greater than 2.5 kVA.

176

---

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY56



CODE CHANGE

M1411 Approved Refrigerants

**M1411.5 Signs and identification.** Each refrigeration system using Group A2L refrigerant shall have the following information legibly and permanently indicated on a markable label provided by the equipment manufacturer:

1. Contact information of the responsible company that installed the refrigeration system, and
2. The system refrigerant charge and the refrigerant number.

**M1411.6 Refrigerant charge.** All refrigeration systems shall have a refrigerant charge in compliance with the equipment manufacturer's installation instructions and the requirements of the listing. Group A2L refrigerant charge for an individual refrigeration system shall not exceed 34.5 lbs (15.7 kg).

**M1411.7 Group A2L refrigerant piping testing.** The piping system containing Group A2L refrigerant shall be tested in accordance with the manufacturer's installation instructions and the requirements of the listing.

177

177

---

---

---

---

---


---

---

---

M1502.6 Makeup Air and Closets

- Minimum opening size requirements added for closet door transfer air grill
- Min. of 100 square inches
- Installations exhausting more than 200 cfm must have makeup air (any location)



178

178

---

---

---

---

---


---

---

---

M1504.3 Exhaust Openings

- Two exceptions added for exhaust openings:
  - Opening less than a foot from another opening
  - Factory-built combination terminals



179

179

---

---

---

---

---

---

---

---

M1504.3 Exhaust Openings

NOTE: Always install the stale air duct from unit on top.

Exhaust stale indoor air, at very high speed

Stale air duct to unit (5" or 6" dia.)

Intake of fresh outdoor air, by the bottom of the dual outside port

Exterior wall

Fresh air duct to unit (5" or 6" dia.)

180

---

---

---

---

---

---

---

---

M1505.5 Local Exhaust Rates

Requirements for local exhaust in a toilet room or bathroom are moved to the section with fans having single or variable speeds and a tested pressure at 0.25-inch water column

181

---

---

---

---

---

---

---

---

M1505.5 Local Exhaust Rates

Option 1: Mechanically provided makeup air from outside

Option 2: Makeup air from outside through another room

182

---

---

---

---

---

---


---

---

183

### M1602.2 Return Air Openings

- Requirements for return air openings for closets and mechanical, boiler and furnace room doors are expanded
- Closet:  $\leq 30$  cfm with undercut or grill of 30 sq. in.
- Furnace room: sealed appliances or pressure differential limited to  $\leq 0.01$ -in. WC by undercut or grill



183

---

---

---

---

---

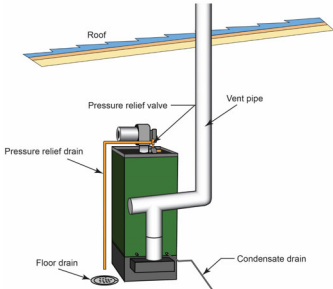
---

---

184

### M2002.4 Discharge Pipe

Requirements for a discharge pipe are added to mirror requirements within the *International Mechanical Code*



184

---

---

---

---

---


---

---

185

### M2103.3 Piping Joints

- Reference is added for ASTM F3226 for press-connect fittings for piping and tubing systems, including copper and copper alloys
- ASTM F3226 *Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems* includes carbon steel, stainless steel, copper and copper-alloy materials



185

---

---

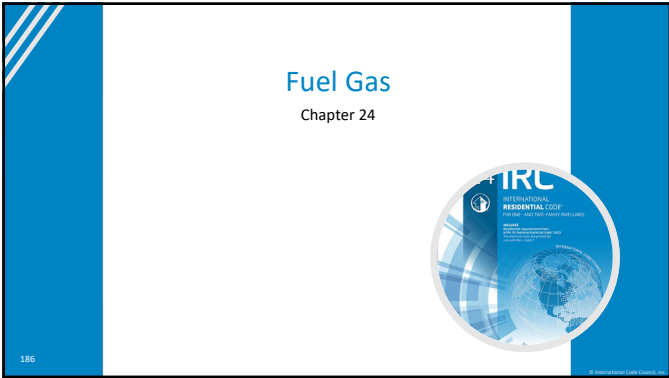
---

---

---

---

---



186

---

---

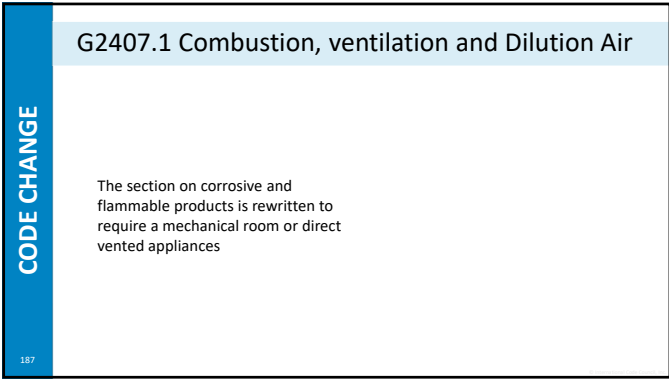
---

---

---

---

---



187

---

---

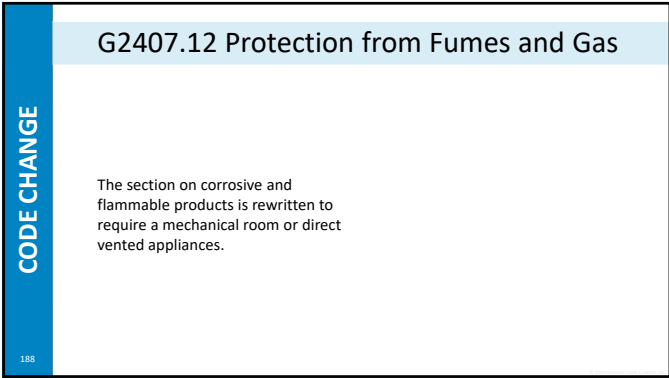
---

---

---

---

---



188

---

---

---

---

---

---

---

CODE CHANGE

189

### G2414.6 Workmanship and Defects

**G2414.6 (403.6) Workmanship and defects.** Gas pipe, tubing and fittings at the time of installation shall meet the following requirements (See Section G2417.1.2.):

1. Gas pipe, tubing and fittings shall be clear and free from cutting burrs and visible defects in structure or threading.
2. Gas pipe, tubing and fittings shall be thoroughly cleaned to remove chip, scale and debris and shall be thoroughly brushed, and chip and scale blown.
3. Visible defects in pipe, tubing and fittings shall not be repaired.
4. Defective Pipe, tubing and fittings with visible defects shall be replaced.

189

---

---

---

---

---

---

---

CODE CHANGE

190

### G2414.9 Metallic Joints and Fittings

**G2414.9 (403.9) Metallic piping joints and fittings.** The type of piping joint used shall conform to the following:

1. It shall be suitable for the pressure-temperature conditions.
2. It shall be selected giving consideration to joint tightness and mechanical strength under the service conditions.
3. It shall be able to sustain the maximum end-temperature expansion or contraction, vibration, fatigue, internal pressure or the weight of the pipe and its contents. The joint shall be able to sustain the maximum end force caused by the internal pressure and any additional forces caused by temperature expansion or contraction, vibration, fatigue, or to the weight of the pipe and its contents.

190

---

---

---

---


---

---

---

### G2417.3.1 Purging Abandoned Piping

Purging of fuel gas piping that will be abandoned in place is required



191

191

---

---

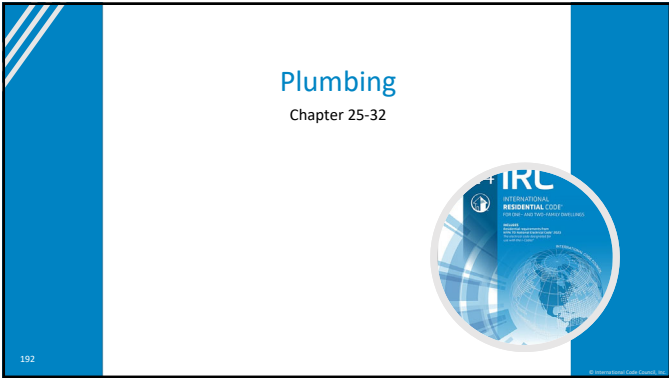
---

---

---

---

---



192

---

---

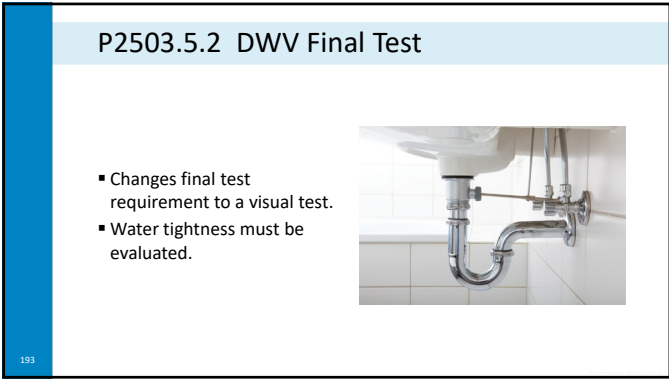
---

---

---

---

---



193

---

---

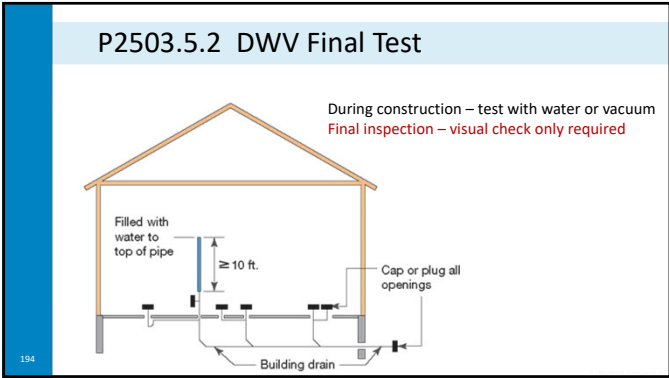
---

---

---

---

---



194

---

---

---

---

---

---

---

195

### P2709.3 Shower Receptor Installation

Shower receptors must be tested for watertightness

2 inches minimum

---

---

---

---

---

---

---

---

195

196

### P2712.2 Dishwasher Connection

Loop required

Kitchen sink

Dishwashing machine

Head of food-waste disposer receives dishwasher discharge pipe or tube

OR

Wye fitting in sink tailpiece receives dishwasher discharge pipe or tube

Previous options for connecting the dishwasher to the wastewater line

---

---

---

---

---

---

---

---

196

197

### P2712.2 Dishwasher Connection

A standpipe is added as an option for connecting the dishwasher to the wastewater line

OR

Dishwasher discharge tube – must have loop

Discharge tube – must drain to standpipe with air break

Standpipe

Dishwasher

---

---

---

---

---

---

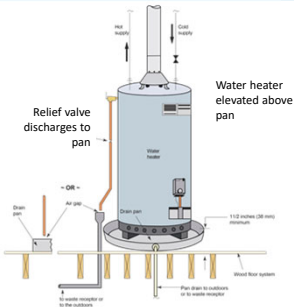
---

---

197

P2801.6.3 Appliance, Equipment and Insulation in Pans

If an appliance is subject to water damage, it must be elevated above its pan



Water heater elevated above pan

198

---

---

---

---

---

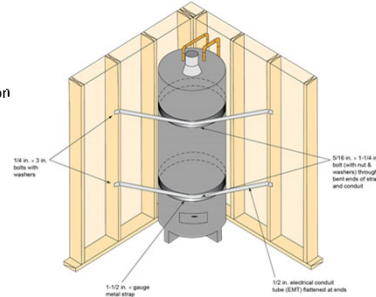
---

---

---

P2801.7 Water Heater Bracing

The requirement for seismic bracing now references IRC Section R301.2.2.10 directly



199

---

---

---

---

---

---

---

---

P2801.8 Lead Content

**P2801.8 Lead Content.** Water heaters shall comply with NSF 372 and shall have a weighted average lead content of 0.25% or less.



200

---

---

---

---

---

---

---

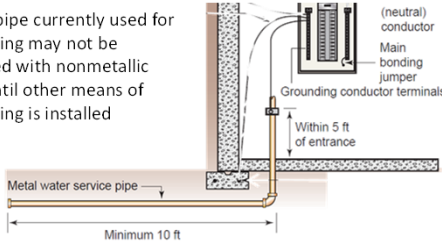
---



201

### P2903.6 Existing Pipe Used for Grounding

- Metal pipe currently used for grounding may not be replaced with nonmetallic pipe until other means of grounding is installed



201

---

---

---

---

---

---

---

202

### P2906.1 CPVC and CPVC/AL/CPVC Pipe

- Solvent cements are allowed above and below ground
- Joint made while cement is wet
- ASTM F3328 used for construction of joints using one-step solvent cement

202

---

---

---

---

---


---

---

203

## Electrical

Chapter 34-43



203

---

---

---

---

---


---

---

204

### E3404.11 Equipment Identification

- Equipment marking by applying labels is clarified
- Reconditioned equipment must have the original trademark destroyed and the organization responsible for the recondition identified by permanent label
- Date of reconditioning added
- Term 'Reconditioned' added



204

---

---

---

---

---

---

---

205

CODE CHANGE

### E3404.14 Reconditioned Equipment

Requirements for reconditioned equipment are added  
Section addresses whether reconditioned equipment is permitted

**E3404.14 Reconditioned equipment.**

**E3404.14.1 Equipment required to be listed**

**E3404.14.2 Equipment not required to be listed**

**E3404.14.3 Approved equipment**

205

---

---

---

---

---

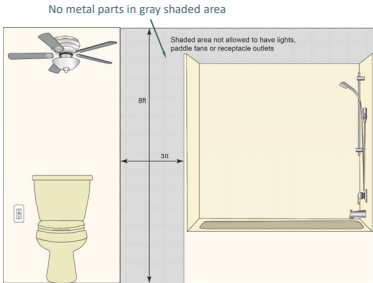
---

---

206

### E3501, E3905.6.3, E4106 Paddle Fans

- Requirements for paddle fans are clarified
- Clearance requirements in bathrooms are added



206

---

---

---

---

---

---

---

CODE CHANGE

E3501, E3905.6.3, E4106 Paddle Fans

ATTACHMENT FITTING, WEIGHT-SUPPORTING (WSAF) (WEIGHT-SUPPORTING ATTACHMENT FITTING).

A device that, by insertion into a weight-supporting ceiling receptacle, establishes a connection between the conductors of the attached utilization equipment and the branch-circuit conductors connected to the weight-supporting ceiling receptacle.

RECEPTACLE, WEIGHT-SUPPORTING CEILING (WSCR) (WEIGHT-SUPPORTING CEILING RECEPTACLE).

A contact device installed at an outlet box for the connection and support of luminaires or ceiling-suspended (paddle) fans using a weight-supporting attachment fitting (WSAF).

207

---

---

---

---

---

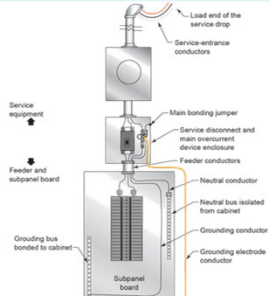
---

---

---

E3607.2 Grounding Electrode

- Additional locations are prohibited as locations to connect the grounding conductor
- A grounded conductor shall not be connected to:
  - Normally non-current-carrying metal parts of equipment
  - Equipment grounding conductor(s)
  - Be reconnected to ground on the load side of the service disconnecting means



208

---

---

---

---

---

---

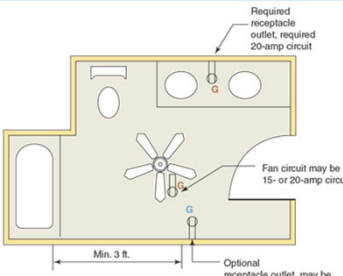
---

---

CODE CHANGE

E3702.15 Branch Circuits

10-amphere circuits are now allowed in specific installations



209

---

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY67

CODE CHANGE

E3702.15 Branch Circuits

TABLE E3702.15(1) Branch-Circuit Requirements—Summary

	Circuit Rating			
	10 amp	15 amp	20 amp	30 amp
Conductors	12	12	10	8
Minimum size (AWG) circuit conductors	12	12	10	8
Maximum overcurrent-protection device rating	10A	15A	20A	30A
Outlet devices:				
Lampholders permitted	Any Type	Any Type	Any Type	NA
Receptacle rating (amperes)	NA	15A max.	15 or 20	30A
Maximum load (amperes)	10A	15A	20A	30A

a. These gages are for copper conductors.  
b. NA = Not Allowed.

210

210

---

---

---

---

---

---

---

---

CODE CHANGE

E3702.15 Branch Circuits

TABLE E3702.15(2) Branch-Circuit Requirements—Summary

	Circuit Rating			
	10 amp	15 amp	20 amp	30 amp
Conductors:	12	12	10	8
Minimum size (AWG) circuit conductors	12	12	10	8
Maximum overcurrent-protection device rating	10A	15A	20A	30A
Outlet devices:				
Lampholders permitted	Any Type	Any Type	Any Type	NA
Receptacle rating (amperes)	NA	15A max.	15 or 20	30A
Maximum load (amperes)				
10A				
15A	10A	15A	20A	30A
20A				
30A				

a. These gages are for aluminum and copper-clad conductors.  
b. NA = Not Allowed.

211

211

---

---

---

---

---

---

---

---

CODE CHANGE

E3704.2 Feeder Loads

- The feeder load calculation table adds EV cars and other vehicles to the calculation procedure
- EV supply equipment (EVSE) load shall be 7200 watts or the nameplate rating of the equipment, whichever is greater



212

212

---

---

---

---

---

---

---

---

E3704.2  
Feeder Loads

213

Areas such as garages, or unused or unfinished space(s) are no longer excluded from the calculated floor area of the building, dwelling unit or other area

Orange shaded area now included with green shaded area in electrical calculation

213

---

---

---

---

---

---

---

CODE CHANGE

E3704.2 Feeder Loads

214

Load Calculation Procedure	Applied Demand Factor
Lighting and receptacles: A unit load of not less than 3 VA per square foot of total floor area shall constitute the lighting and 120-volt, 15- and 20-ampere general use receptacle load. 1,500 VA shall be added for each 20-ampere branch circuit serving receptacles in the kitchen, dining room, pantry, breakfast area and laundry area.	100 percent of first 3,000 VA or less and 35 percent of that in excess of 3,000 VA.
Plus	
Appliances and motors: The nameplate rating load of all fastened-in-place appliances 1/4 horsepower or greater, or 500 watts or greater, that are fastened in place, other than dryers, ranges, air-conditioning and space-heating equipment, and electric vehicle supply equipment (EVSE).	100 percent of load for three or less appliances. 75 percent of load for four or more appliances.
Plus	
Fixed motors: Full-load current of motors plus 25 percent of the full load current of the largest motor.	
Plus	
Electric clothes dryer: The dryer load shall be 5,000 VA for each dryer circuit or the nameplate rating load of each dryer, whichever is greater.	
Plus	
Cooking appliances: The nameplate rating of ranges, wall-mounted ovens, counter-mounted cooking units and other cooking appliances rated in excess of 1.75 kVA shall be summed.	Demand factors shall be as allowed by Table E3704.2(2).
Plus	
The electric vehicle supply equipment (EVSE) load shall be 7,200 watts (volt-amperes) or the nameplate rating of the equipment, whichever is greater.	
Plus the largest of either the heating or cooling load	
Largest of the following two selections: 1. 100 percent of the nameplate rating(s) of the air conditioning and cooling, including heat pump compressors. 2. 100 percent of the fixed electric space heating.	

214

---

---

---

---

---

---

---

E3704.4 Lighting and General Use Receptacle Load

215

- Motors on a lighting circuit should be included in the minimum lighting load.
- Clarification is added for unused areas of a house or townhouse.

Orange shaded area now included with green shaded area in electrical calculation

215

---

---

---

---

---

---

---

E3901.4 Countertop and Work Surface Receptacles

Islands and countertops may no longer have receptacle outlets below the counter

Receptacles must be on or above countertops

Receptacles prohibited below countertops

Receptacles prohibited flat in countertop

216

---

---

---

---

---

---

---

E3901.9 Basements, Garages and Accessory Buildings

Receptacle outlets supplying a security system may not be the only outlet in an unfinished space.

Receptacle outlets supplying a security system may not be the only outlet in an unfinished space.

217

---

---

---

---

---

---

---

E3902.12 Appliance Outlets

GFCI protection must be contained in receptacle outlets or their branch circuit for most kitchen appliances

GFCI protection must be contained in receptacle outlets or their branch circuit for most kitchen appliances

218

---

---

---

---

---

---

---

219

### E3902.12 Appliance Outlets – GFCI Protected

1. Drinking water coolers and bottle fill stations

2. High pressure spray washing machines

3. Sump pumps

4. Dishwashers

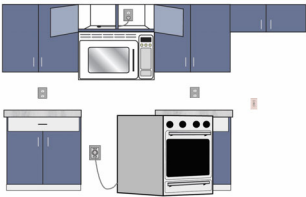
5. Electric ranges

6. Wall-mounted ovens

7. Counter-mounted cooking units

8. Clothes dryers

9. Microwave ovens



219

---

---

---

---

---

---

---

220

### E3902.14 Outdoor Outlets


▪ Outdoor outlets must be GFCI protected with a few exceptions

▪ Exceptions:

▪ Lighting outlets

▪ Not readily-accessible receptacles dedicated to electric snow melting or deicing

▪ HVAC equipment (expires 9-1-2026)



220

---

---

---

---

---

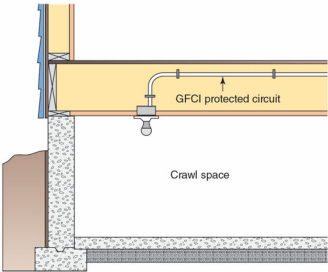
---

---

221

### E3902.15 Crawl Space Lighting Outlets

2018 IRC requirements to have GFCI protection of light outlets in a crawl space is deleted



221

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY71

222

### E3902.18 GFCI Protection Not Required

- A list of receptacles that don't require GFCI protection is added
  - Receptacles not readily accessible and dedicated to electric snow-melting or deicing equipment
  - A receptacle supplying premises security system
  - Listed weight-supporting ceiling receptacles in combination with compatible WSAF installed to support a ceiling luminaire or ceiling-suspended fan
  - Factory-installed receptacles not readily accessible and mounted internally to bathroom exhaust fan assemblies

222

---

---

---

---

---


---

---


223

### E3903 Lighting Outlets

- Light switches may not rely on battery power without backup
- Dimmer control of lighting outlets on stairs not permitted unless listed control devices can meet minimum brightness for the interior stairway illumination



Motion activated switch



Manually activated switch

223

---

---

---

---

---


---

---

224

### E3905.13 Fastener Penetration

A new section is added limiting screw fastener penetration into boxes



224

---

---

---

---

---

---

---



CODE CHANGE

225

E3905.13 Fastener Penetration

**E3908.8.1 Grounded conductor connections to electric ranges and clothes dryers.** For existing branch circuit installations only, if an equipment grounding conductor is not present in the outlet or junction box the frame of the appliance shall be permitted to be connected to the grounded conductor if all the conditions in the following list items (1), (2), and (3) are met and the grounded conductor complies with either list item (4) or (5):

1. The supply circuit is 120/240-volt, single-phase, 3-wire; or 208Y/120-volt derived from a 3-phase, 4-wire, wye connected system.
2. The grounded conductor is not smaller than 10 AWG copper or 8 AWG aluminum or copper-clad aluminum.
3. Grounding contacts of receptacles furnished as part of the equipment are bonded to the equipment.
4. The grounded conductor is insulated, or the grounded conductor is uninsulated and part of a Type SE service-entrance-cable and the branch circuit originates at the service equipment.

225

---

---

---

---

---

---

---

CODE CHANGE

226

E3905.13 Fastener Penetration (cont.)

**E3908.8.1 Grounded conductor connections to electric ranges and clothes dryers** (cont.)  
The grounded conductor is part of a Type SE service-entrance cable that originates in equipment other than a service. The grounded conductor shall be insulated or field covered within the supply enclosure with listed insulating material, such as tape or sleeving to prevent contact of the uninsulated conductor with any normally noncurrent-carrying metal parts.

226

---

---

---

---

---

---

---

E3908.8.1 Frames of Ranges and Dryers

Replacement of existing electric ranges and clothes dryers require a grounded conductor connection.

227

227

---

---

---

---

---


---

---

E4001.2, E4002.3 Snap Switches

228

Adds requirements for snap switch terminations



Single-Pole

228

---

---

---

---

---


---

---

E4002.11 Receptacles Near Bathtubs and Showers

229

Provision reworded for clarity on the minimum distance from a bathtub or shower to a receptacle



3ft

Receptacle allowed on far side of toilet

Receptacle not allowed between shower and toilet

229

---

---

---

---

---


---

---

E4004.10 Luminaires in Fire-rated Construction

230

- Luminaires in fire-rated wall and ceiling assemblies must be listed for use in fire-rated construction or be in an enclosure that is listed
- Luminaires marked "FOR USE IN NONFIRE-RATED INSTALLATIONS" shall not be used in fire-rated installations.



230

---

---

---

---

---

---

---

231

E4206.13 Swim Pool Heat Pumps and Chillers

Swimming pool heat pumps and chillers must be listed and rated for their use

231

---

---

---

---

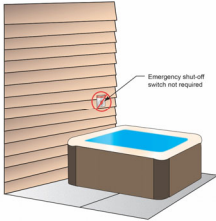
---

---

---

232

E4208.4 Emergency Shutoff



Emergency shut-off switch not required

Hot tubs and spas in and around single-family homes do not require an emergency shut off switch

232

---

---

---

---

---

---

---

233

E4208.5 Low-voltage Contact Limit

CODE CHANGE

**E4208.5 Equipment exceeding the low-voltage contact limit.** Except for self-contained spas and hot tubs, equipment with ratings exceeding the low-voltage contact limit shall be located at least 1.5 m (5 ft) horizontally from the inside walls of a spa or hot tub, unless separated from the spa or hot tub by a solid fence, wall, or other permanent barrier.

233

---

---

---

---

---

---

---

CODE CHANGE

234

E4208.6 Receptacles

E4208.6 Receptacles supplying power to spas and hot tubs. Receptacles that provide power for a spa or hot tub shall not exceed 150 volts to ground and shall be GFCI protected.

234

---

---

---


---

---

---

---

Appendices



235

235

---

---

---

---

---

---

---

Appendices Reorganized

- Administrative Appendices AA, AB
- Building Appendices BA-BO
- PMG Appendices CA-CH
- Energy Appendices NA-NE

Appendix Designation		Appendix Title
2024 IRC	2021 IRC	
Administrative Appendices		
AA	AV	Board of Appeals
AB	AL	Permit Fees
Building Appendices		
BA	AE	Manufactured Housing Used as Dwellings
BB	AQ	Tiny Houses
BC	AY	Accessory Dwelling Units (ADUs)
BD	AM	Home Day Care—R-3 Occupancy
BE	AF	Radon Control Methods
BF	AH	Patio Covers
BG	AK	Sound Transmission
BH	AO	Automatic Vehicular Gates
BI	AR	Light Straw Clay Construction
BJ	AS	Strawbale Construction
BK	AU	Cob Construction (Monolithic Adobe)
BL	BA	Hemp-Lime (Hempcrete) Construction
BM	AW	3D-Printed Building Construction
BN	AZ	Extended Plate Wall Construction
BO	AI	Existing Buildings and Structures
PMG Appendices		
CA	AA	Sizing and Capacities of Gas Piping

236

236

---

---

---

---

---

---

---

237

Appendix BB Non-sewered Sanitation Systems

A prefabricated sanitation system that is not connected to a private sewage disposal system or sewer system is added as an option



237

---

---

---

---

---



---

---

238

Appendix BC Accessory Dwelling Units (ADUs)

- Appendix on ADUs is added
  - Contains limits to ADU location
  - Conditions where they may be built



238

---

---

---

---

---

---

---

239

Appendix BC Accessory Dwelling Units (ADUs)

CODE CHANGE

BC101

GENERAL

BC101.1 Scope.

ADUs proposed for existing residential construction shall be in accordance with this appendix, other applicable requirements in this code and the existing building together with the ADUs and shall not exceed the scoping limitations of Section R101.2.

239

---

---

---

---

---

---

---

CODE CHANGE

Appendix BC Accessory Dwelling Units (ADUs)

BC101.1.1 Prohibited Conditions.

An ADU shall not be permitted within:

1. Live/work units located in townhouses.

2. Owner-occupied lodging houses with five or fewer guestrooms.

3. A care-facility with five or fewer persons receiving medical care or custodial care within a dwelling unit.

4. A care-facility with five or fewer persons receiving care within a single-family dwelling.

240

---

---

---

---

---

---

---

CODE CHANGE

Appendix BC Accessory Dwelling Units (ADUs)

BC101.2 Conditions:

ADUs shall be permitted without requiring a change of occupancy to either a two-or multi-family dwelling where in compliance with all of the following:

1. An ADU shall be permitted within an existing single-family detached dwelling or within an existing townhouse unit, that is within the scope of the IRC.

2. The owner of a property containing an ADU shall reside in either the primary dwelling unit or the ADU, as of the date of permit approval.

3. An ADU shall have a separate house number from the primary dwelling unit.

241

---

---

---

---

---

---

---

CODE CHANGE

Appendix BC Accessory Dwelling Units (ADUs)

4. ADUs shall be secondary in size and function to the primary dwelling unit and shall comply with all of the following limits.

4.1 Not less than 190 square feet (17.65 m2) in area.

4.2 Not more than 50 percent of the area of the primary dwelling unit.

4.3 Not more than 1,200 square feet (111 m2) in area.

5. An ADU shall be provided with a separate entrance than that serving the primary dwelling unit either from the exterior of the building or from a common hallway located within the building.

6. An ADU shall have a maximum number of two bedrooms.

7. The location of a detached ADU shall comply with Section R302.

8. An ADU shall be provided with adequate provisions for electricity, water supply and sewage disposal.

242

---

---

---

---

---

---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY78

CODE CHANGE

243

Appendix BC Accessory Dwelling Units (ADUs)

BC102

DEFINITIONS

**BC201.1 Definitions.** The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

**ACCESSORY DWELLING UNIT (ADU).** An addition or alteration that is an additional, subordinate dwelling unit on the same lot, that is entirely within a dwelling unit, attached to a dwelling unit, or in a detached structure.

BC103

PERMITS

**BC103.1 Required.** Any owner or owner's agent who intends to construct an ADU within an existing or proposed building or structure shall first make application to the building official and obtain the required permit.

243

---

---

---

---

---

---

---

---

CODE CHANGE

244

Appendix BC Accessory Dwelling Units (ADUs)

BC104

ADU PLANNING

**BC104.1 Design.** Except as modified by this section, building planning shall be in accordance with Chapter 3 and building structure shall comply with the IRC.

**BC104.1.2 Means of egress.** The path of egress travel from an ADU to a public way or to a yard or court that opens to a public way shall be independent of, and not pass through the primary dwelling unit.

244

---

---

---

---

---

---

---

---

CODE CHANGE

245

Appendix BC Accessory Dwelling Units (ADUs)

BC104.1.3 Fire separation.

For ADUs adjoining the primary dwelling unit, the 1-hour fire-resistance rated wall and floor assembly provisions of Section R302.3 shall not be required provided that both of the following conditions have been met:

1. The interconnection of smoke alarms per Section R314.4 activates the smoke alarms in both the primary dwelling unit and the ADU.

2. The interconnection of carbon monoxide alarms per Section R315.5 activates the carbon monoxide alarms in both the primary dwelling unit and the ADU.

BC104.1.4 Smoke and carbon monoxide alarms.

For ADUs adjoining the primary dwelling unit, the interconnectivity of smoke alarms and carbon monoxide alarms may be independent for the primary dwelling unit and the ADU provided that a 1-hour fire-resistance rating is provided for walls and floor assemblies as per R302.3.

245

---

---

---

---

---

---

---

---

CODE CHANGE

Appendix BC Accessory Dwelling Units (ADUs)

BC105  
UTILITIES

**BC105.1 Heating,** ventilation and air-conditioning systems. A primary dwelling unit and an ADU shall be provided with:

1. A separate heating system.
2. Separate ducting for heating and cooling systems. Return air openings for heating, ventilation and air-conditioning shall not be taken from another dwelling unit.
3. Separate climate controls.

**BC105.2 Electrical systems.** A primary dwelling unit and an ADU shall be provided with:

1. Ready access to the service disconnecting means serving the dwelling unit.
2. Ready access for each occupant to all overcurrent devices protecting the conductors supplying the dwelling unit in which they reside.

246

---

---

---

---

---

---

---

---

CODE CHANGE

Appendix BC Accessory Dwelling Units (ADUs)

**BC105.3 Gas piping.** A primary dwelling unit and an ADU shall be provided with:

1. Ready access to shutoff valves serving the dwelling unit in which they reside.
2. Ready access to appliance shutoff valves serving appliances in the dwelling unit in which they reside.

**BC105.4 Water service.** A primary dwelling unit and an ADU may share a common potable water system provided that there are separate, accessible main shutoff valves allowing the water to be turned off on one-side without affecting the other.

247

---

---

---

---

---


---

---

---

Appendix BN Extended Plate Wall Construction

Extended plate construction forms a new alternative for wood-framed walls



248

---

---

---

---

---

---

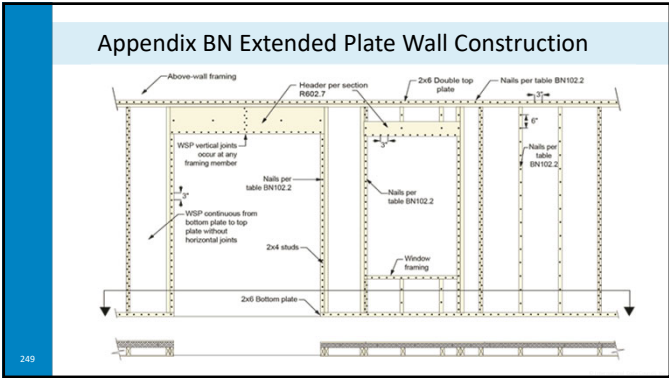
---

---

Copyright 2024 International Code Council

EDUCODE 2024 – FOR CLASSROOM USE ONLY80





249

---

---

---

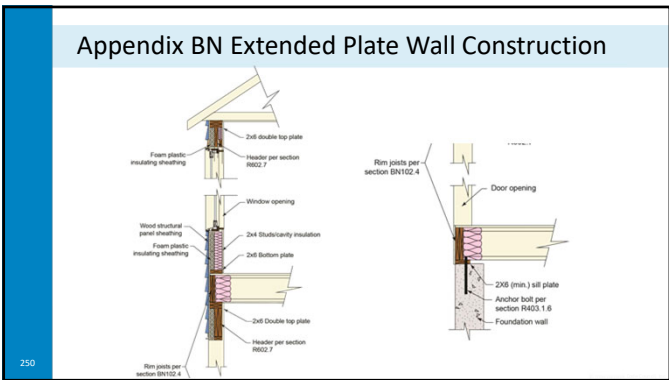
---

---

---

---

---



250

---

---

---

---

---

---

---

---



251

---

---

---

---

---

---

---

---

252

Appendix BO - Existing Buildings

**AJ101.1 General.** The purpose of these provisions is to encourage the continued use or reuse of legally existing buildings and structures. ~~These provisions are intended to permit work in existing buildings that is consistent with the purpose of this code. Compliance with these provisions shall be deemed to meet the requirements of this code.~~ Structural elements and systems shall comply with Section R102.7.1 and the provisions of this Appendix. *Repairs, alterations, additions, and relocation of existing buildings and structures shall comply with the provisions of this code for new construction, except as modified by this appendix.*

252

---

---

---

---

---

---

---

---

253

Discussion



253

---

---

---

---

---

---

---

---

EVALUATION & SIGN OUT

254

Thanks for Allowing Us to Serve You!  
Please Complete Your Evaluation & Sign Out

1

  
[iccsafe.org/eval](https://iccsafe.org/eval)

2

  
[iccsafe.org/attend](https://iccsafe.org/attend)

254

---

---

---

---

---

---

---

---



255

---

---

---

---

---

---

---