

2015 IRC update

November 20, 2019
GMNHBRA - Nashua, NH

2015 IRC update

- ◆ We are covering 2 code cycles of changes this time.
- ◆ Cover some of the more critical changes
- ◆ We will also identify the delayed code changes and when they become effective.

2015 IRC Update

Quick refresher:

Foundation drainage stone:

- Must be 6" above the top of the footing
- Must be one sieve size larger than the holes in the drain pipe (no dirty stone)

2015 IRC Update

Quick refresher:

R311.3 There shall be a landing on each side of each exterior door.

Been in the code since 2000 IRC came into existence.

This why you may not install an exterior door and “we will add the stairs later when we can afford it”.

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CHAPTER 2

DEFINITIONS

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2015 CODE: ACCESSORY STRUCTURE. A structure that is accessory to and incidental to that dwellings and that is located on the same lot.

This removes the height and area limitation imposed by the 2006 CODE

2015 IRC Update

2012 code: R202 Definition Pan Flashing. Corrosion-resistant flashing at the base of an opening that is integrated into the building exterior wall to direct water to the exterior and is pre-manufactured, fabricated, formed, or applied at the job site.

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2012 CODE: Structural Composite Lumber.

Structural members manufactured using wood elements bonded together with exterior adhesives.

2015 IRC Update



CHAPTER 3

BUILDING PLANNING

2015 IRC update

2012 CODE: R302.5.1 Opening Protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted.

Other openings between the garage and residence shall be equipped with solid wood doors not less than 13/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8-inches (35 mm) thick, or 20-minute fire-rated doors, **equipped with a self-closing device.**

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2015 CODE: R304.1 Minimum area. Habitable rooms shall have a floor area of not less than 70 square feet (6.5 m²).

Exception: Kitchens.

Worth noting the last sentence of the change significance paragraph is: "It may also encourage greater acceptance of and compliance with the residential code by those pursuing a minimalist lifestyle."

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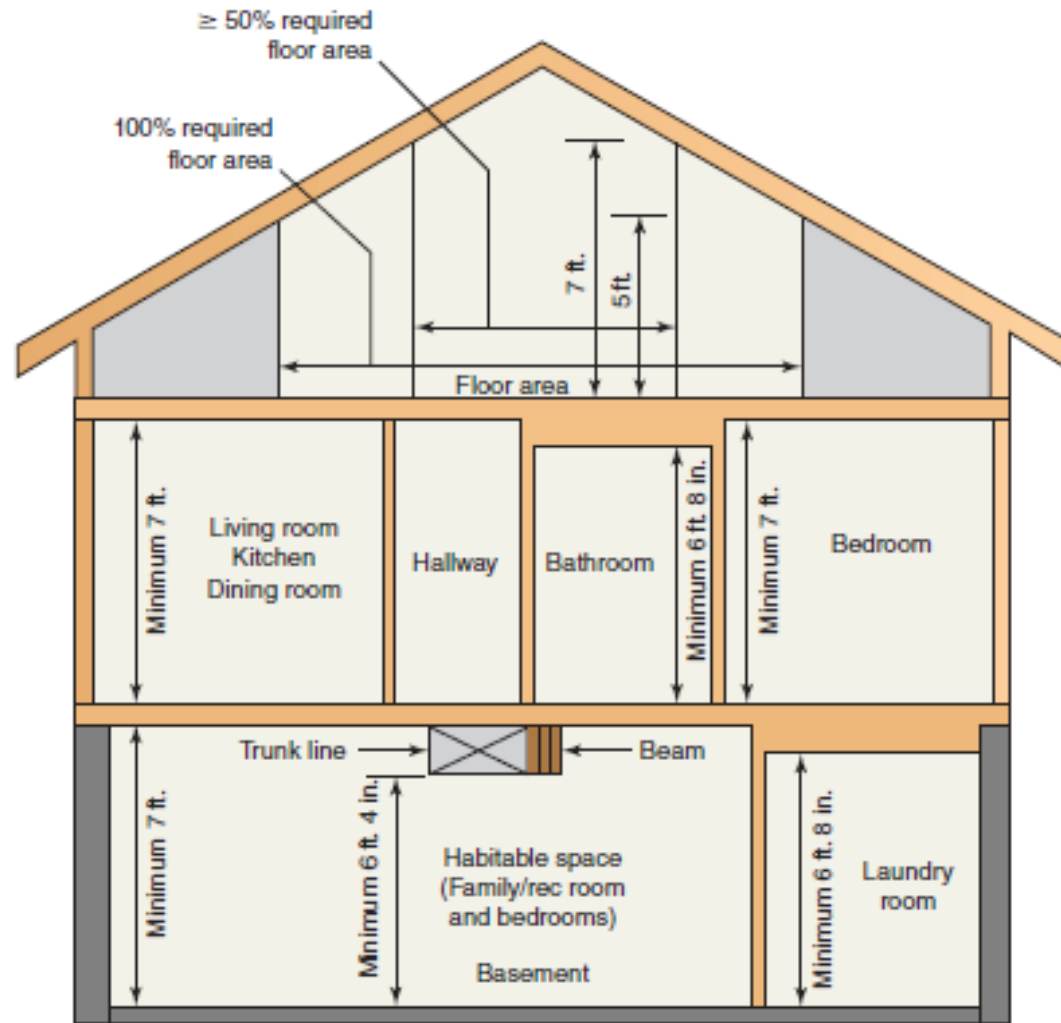
2015 CODE: R305.1 Minimum height. Habitable space, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). Bathrooms, toilet rooms, and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

EXCEPTIONS:

3. Beams, girders, ducts, or other obstructions in basements containing habitable space shall be permitted to project to **within 6 feet 4 inches** (1931 mm) of the finished floor.

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2015 CODE



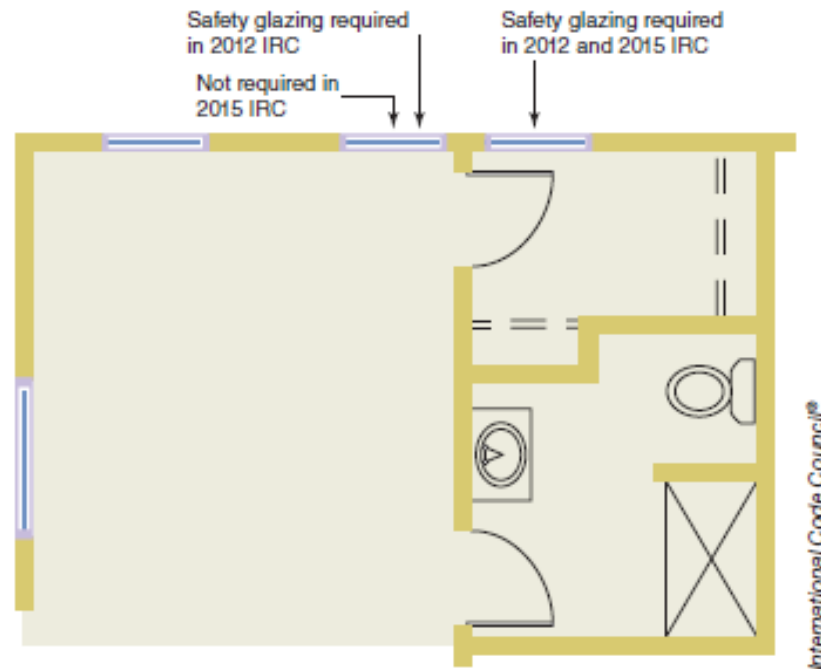
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Ceiling height

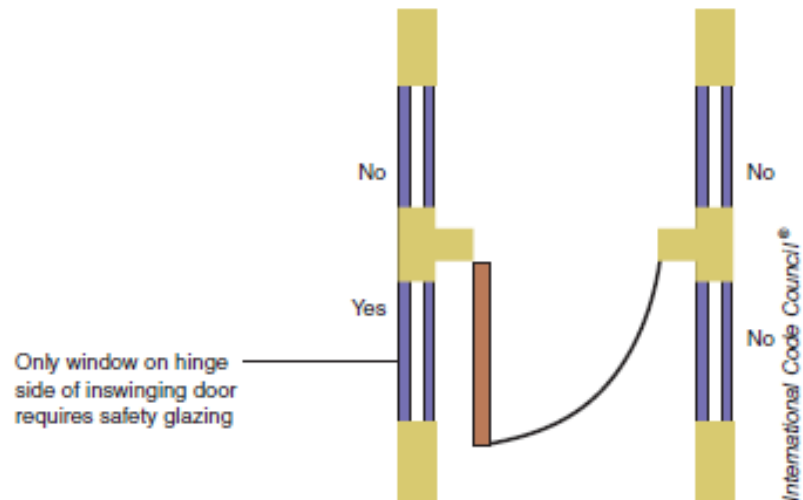
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2015 CODE: R308.4.2

Glazing adjacent
to doors



Glazing in windows adjacent and perpendicular to door



Windows adjacent and perpendicular to door

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2012 CODE: R310.2.2 Drainage. Window wells shall be designed for proper drainage by connecting to the building's foundation drainage system required by Section R405.1 or by an approved alternate method.

Note: when used as part of emergency escape & rescue opening

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2015 CODE: R310.5 Dwelling additions. Where dwelling additions occur that contain sleeping rooms, an emergency escape and rescue opening shall be provided in each new sleeping room. Where dwelling additions occur that have basements, an emergency escape and rescue opening shall be provided in the new basement.

Exceptions:

- 1.** An emergency escape and rescue opening is not required in a new basement that contains a sleeping room with an emergency escape and rescue opening.
- 2.** An emergency escape and rescue opening is not required in a new basement where there is an emergency escape and rescue opening in an existing basement that is accessible from the new basement.

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2015 CODE: R310.6 Alterations or repairs of existing basements. An emergency escape and rescue opening is not required where existing basements undergo alterations or repairs.

Exception: New sleeping rooms created in an existing basement shall be provided with emergency escape and rescue openings in accordance with Section R310.1.

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2015 CODE: R311.7.3 Vertical rise. A flight of stairs shall not have a vertical rise larger than 147 inches (3734 mm) between floor levels or landings.

Represents an increase of 3 inches in height over previous editions.

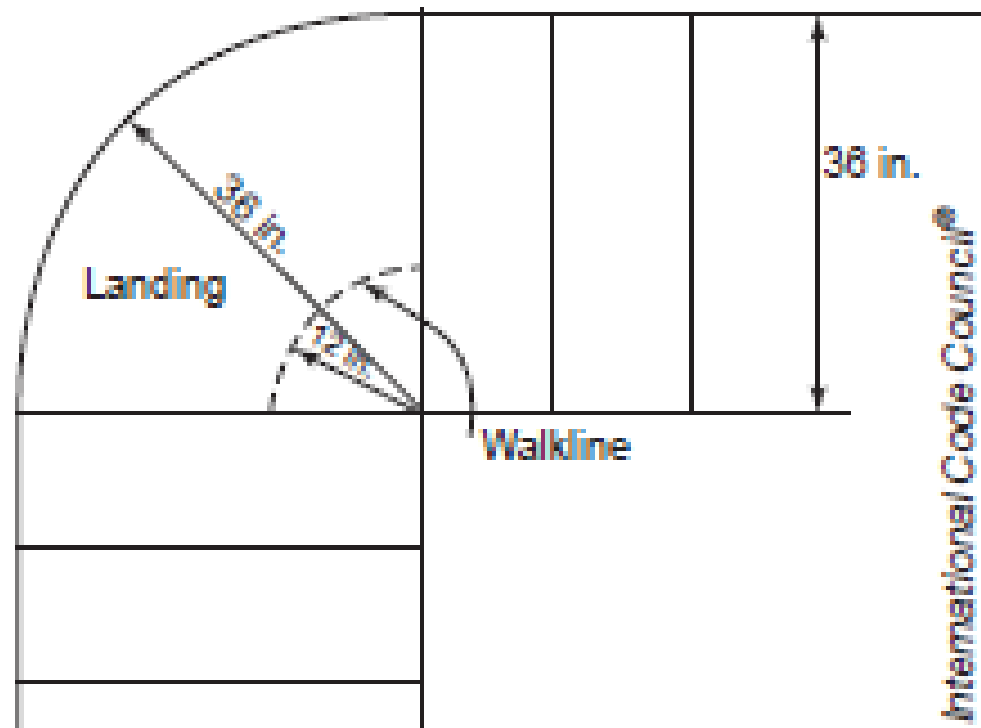
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2012 CODE: R311.7.5 R311.7.6 Landings for Stairways. There shall be a floor or landing at the top and bottom of each stairway. The minimum width perpendicular to the direction of travel shall be no less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run the minimum depth in the direction of travel shall be not less than 36 inches (914 mm).

Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.¹⁹

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2012 CODE



Curved landing at turn in stair.

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2015 CODE: R311.7.11 Alternating tread devices.

Alternating tread devices shall not be used as an element of a means of egress. Alternating tread devices shall be permitted provided the required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required. The clear width at and below the handrails shall be not less than 20 inches (508 mm).

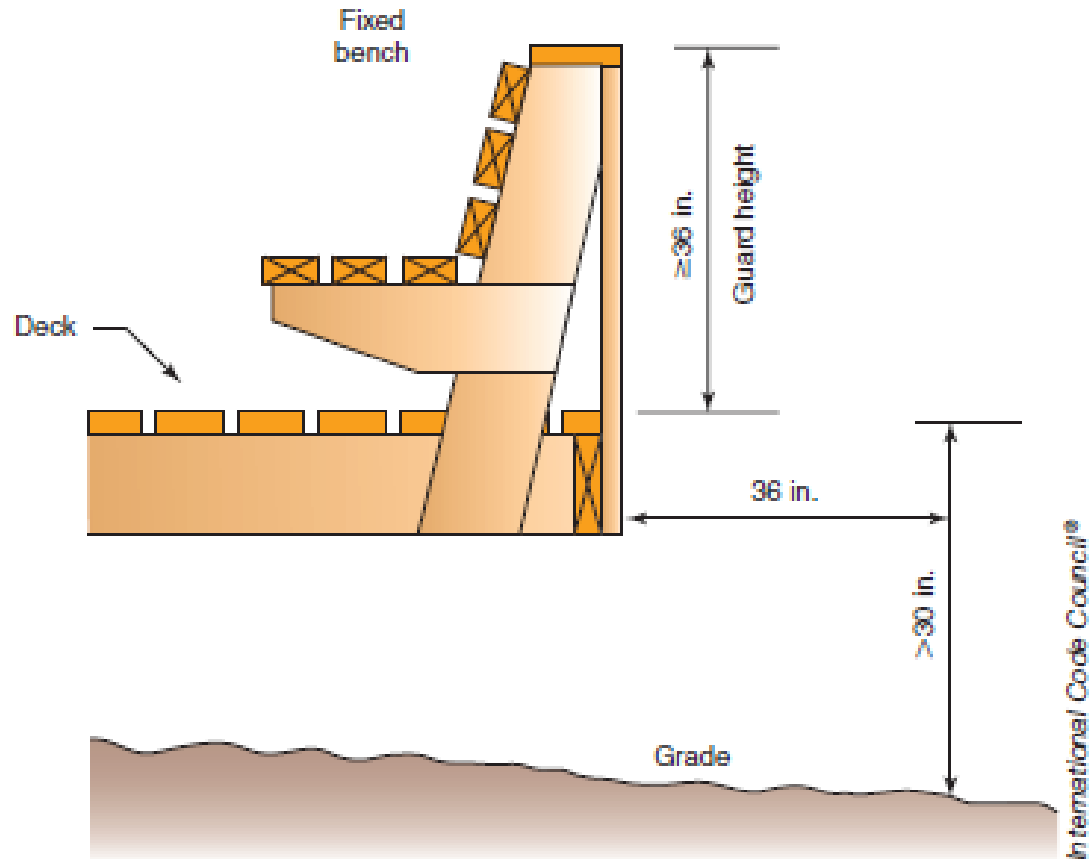
R311.7.12 Ship ladders. Ship ladders shall not be used as an element of a means of egress. Ship ladders shall be permitted provided a required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required. The clear width at and below the handrails shall be not less than 20 inches.

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2015 CODE

R312.12

change in
measuring
for guard
height from
2012. No
longer
measured
from bench
seat



Measuring guard height at fixed seating

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TAKE NOTICE: This section does not become effective until February 26, 2021*

2015 Code: R302.13 Fire protection of floors.

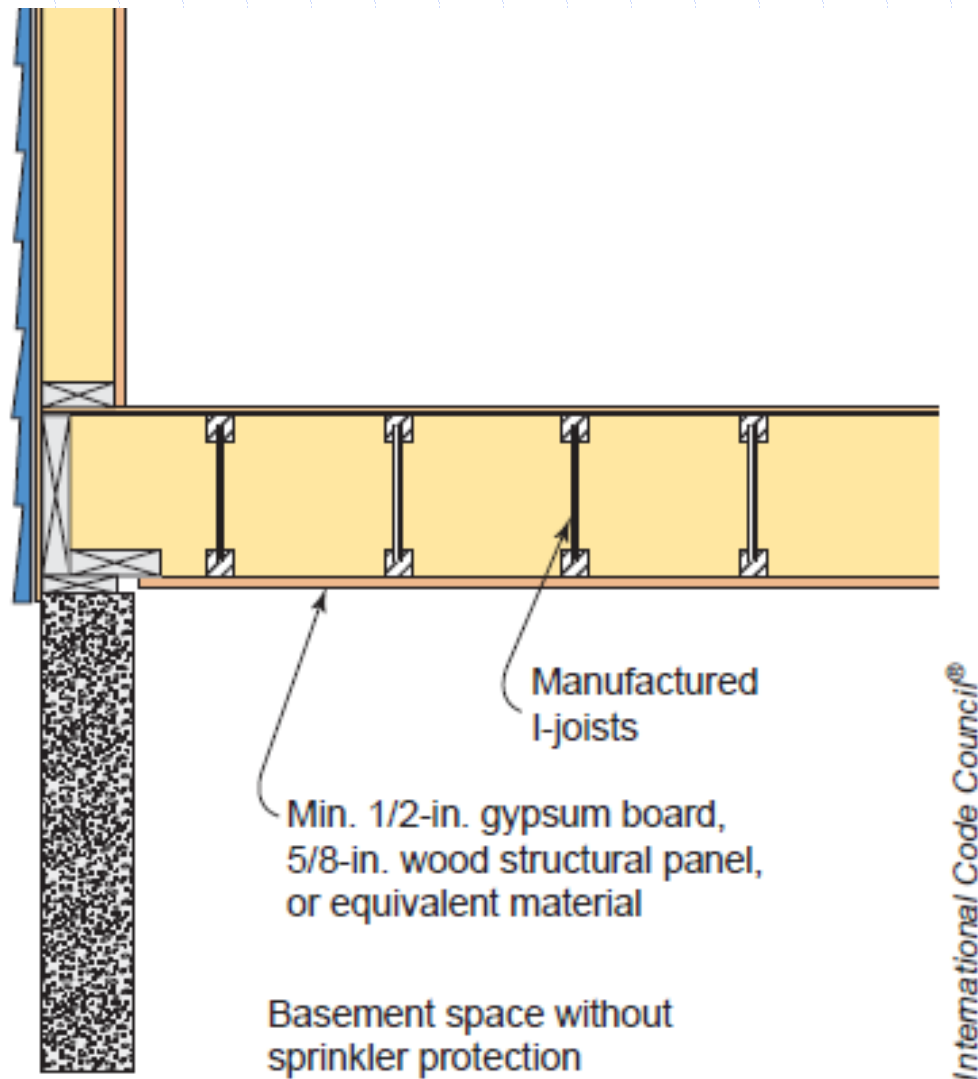
This section has been moved from R501.3 of the 2012 IRC.

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2015 Code: R302.13 Fire protection of floors.

Floor assemblies, that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a .-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping, and similar openings or penetrations shall be permitted.

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Fire protection of floors

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2015 CODE: Section R325 Mezzanines

Change Type: Addition

CHANGE SUMMARY: New provisions in Section R325 place limitations on the construction of mezzanines related to ceiling height and openness consistent with the *International Building Code* (IBC).

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CHAPTER 4

FOUNDATIONS

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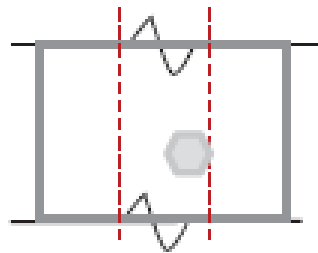
2015 CODE: R403.1.1 Minimum size.

The footing tables have been reworked.

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2015 CODE:
R403.1.6 anchor
bolts need to be
in center 1/3 of
plate

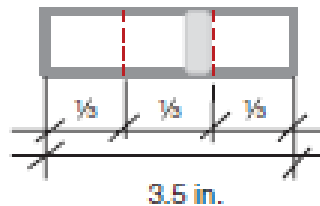
2x4 plates



2x4 plates are 3.5 in. wide. If a bolt needs to be in the middle third of the plate, then:

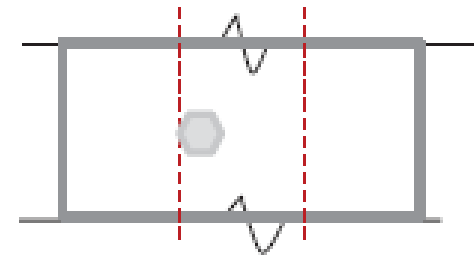
$$3 \frac{1}{2}'' / 3 = 1 \frac{1}{6}''$$

The edge of the bolt, not the bolt head, should begin at least $1 \frac{1}{6}$ in. in from the edge of the plate.



Minimum edge distance

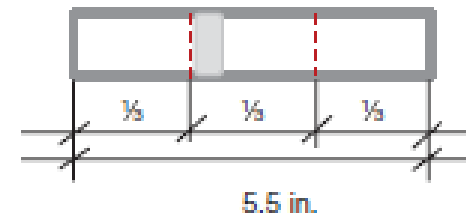
2x6 plates



2x6 plates are 5.5 in. wide. If a bolt needs to be in the middle third of the plate, then:

$$5 \frac{1}{2}'' / 3 = 1 \frac{3}{4}''$$

The edge of the bolt, not the bolt head, should begin at least $1 \frac{3}{4}$ in. in from the edge of the plate.



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Chapter 5

FLOORS

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2015 Code: R502.10 Framing of openings. Openings in floor framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet (1219 mm), the header joist may be a single member the same size as the floor joist. Single trimmer joists may be used to carry a single header joist that is located within 3 feet (914 mm) of the trimmer joist bearing. When the header joist span exceeds 4 feet (1219 mm), the trimmer joists and the header joist shall be doubled and of sufficient cross section to support the floor joists framing into the header.

Removed language saying only needing hangers when headers exceeded 6' (R502.6)

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2015 CODE: R507.4 Decking. Maximum allowable spacing for joists supporting decking shall be in accordance with Table R507.4. Wood decking shall be attached to each supporting member with not less than (2) 8d **threaded nails** or (2) No. 8 wood screws.

TABLE R507.4 Maximum joist spacing

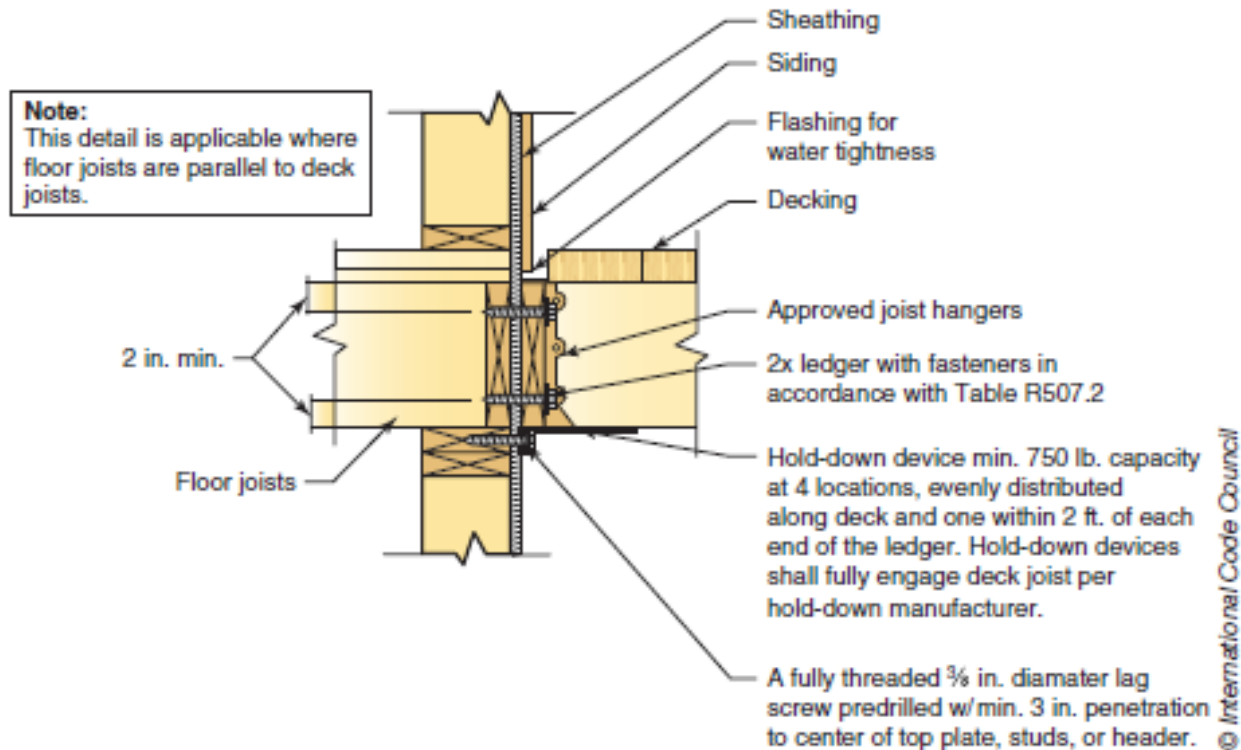
<u>Material type and nominal size</u>	<u>Maximum on-center joist spacing</u>	
	<u>Perpendicular to joist</u>	<u>Diagonal to joist^a</u>
<u>1 1/4-inch thick wood</u>	<u>16 inches</u>	<u>12 inches</u>
<u>2-inch thick wood</u>	<u>24 inches</u>	<u>16 inches</u>
<u>Plastic composite</u>	<u>In accordance with Section R507.3</u>	<u>In accordance with Section R507.3</u>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.

a. Maximum angle of 45 degrees from perpendicular for wood deck boards

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2015 Code: R507.2.4 Deck lateral load connection. Figure 507.2.3(2) (new)



2015 IRC Update

2015 Code: R507.5 Deck joists. Maximum allowable spans for wood deck joists, as shown in Figure R507.5, shall be in accordance with Table R507.5. Deck joists shall be permitted to cantilever a maximum of one-fourth of the actual, adjacent joist span.

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2015 CODE: R507.5.1 Lateral restraint at supports.

Joist ends and bearing locations shall be provided with lateral restraint to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth. Where lateral restraint is provided by rim joists, they shall be secured to the end of each joist with not less than (3) 10d (3 inch by 0.128 inch) (76 mm by 3 mm) nails or (3) No. 10 by 3 inch (76 mm) long wood screws.

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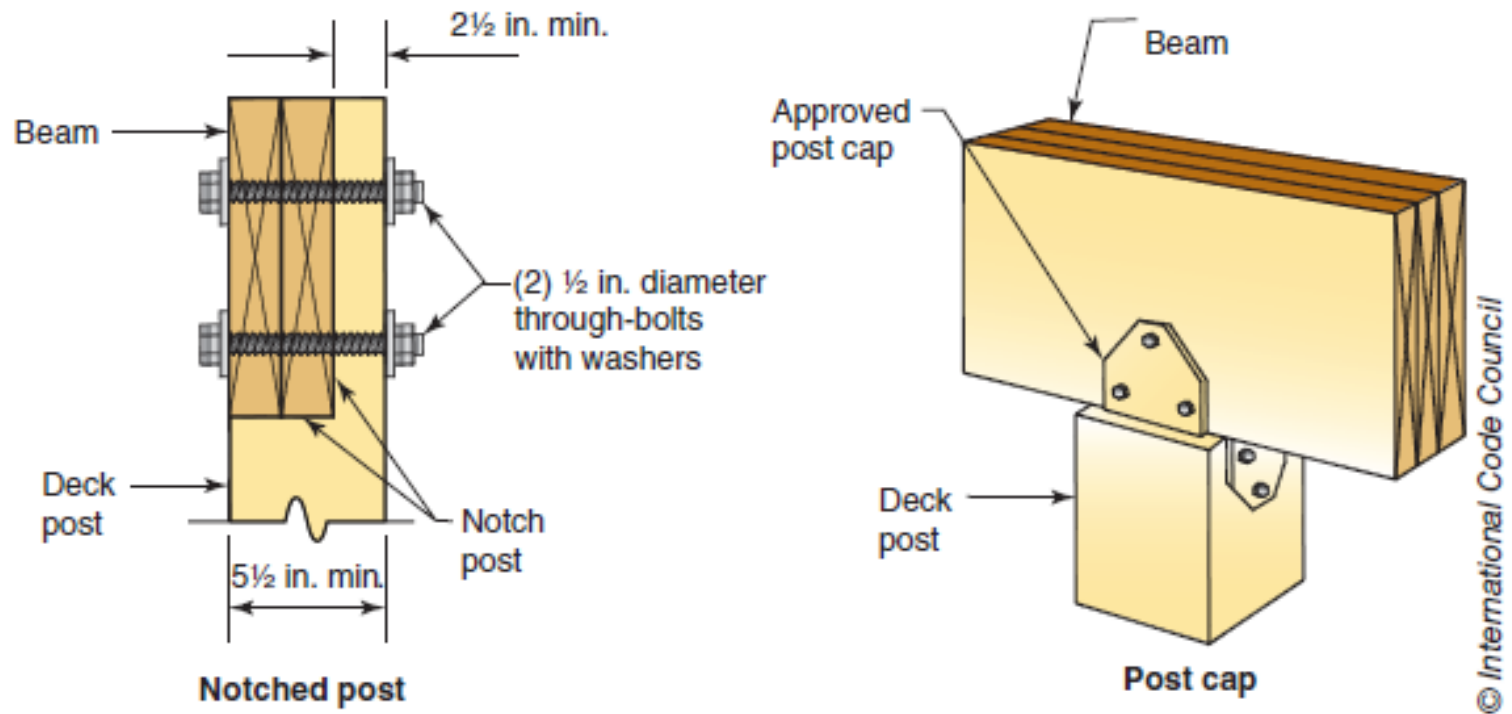
2015 Code: R507.6 Deck Beams. Maximum allowable spans for wood deck beams, as shown in Figure R507.6, shall be in accordance with Table R507.6. Beam plies shall be fastened with two rows of 10d (3 inch by 0.128 inch) (76 mm by 3 mm) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one fourth of the actual beam span. Splices of multi-span beams shall be located at interior post locations.

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2015 CODE: R507.7.1 Deck post to deck beam. Deck beams shall be attached to deck posts in accordance with Figure R507.8.7.1 or by other equivalent means capable of resisting lateral displacement. Manufactured post-to-beam connectors shall be sized for the post and beam sizes. All bolts shall have washers under the head and nut.

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Figure R507.8.7.1



Connection of deck posts to deck beam

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2015 Code: R507.8 Deck posts. For single-level, wood-framed decks with beams sized in accordance with Table R507.6, deck post size shall be in accordance with Table R507.8.

TABLE R507.8 Deck Post Height^a

<u>Deck Post Size</u>	<u>Maximum Height</u>
<u>4 × 4</u>	<u>8'</u>
<u>4 × 6</u>	<u>8'</u>
<u>6 × 6</u>	<u>14'</u>

For SI: 1 foot = 304.8 mm

a. Measured to the underside of the beam.

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CHAPTER 6

WALL CONSTRUCTION

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2015 CODE: R602.7 Headers.

For header spans see Tables R602.7(1), R602.7(2) and R602.7(3)

Girder & header span tables have been moved from chapter 5 to chapter 6

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NEW SECTION

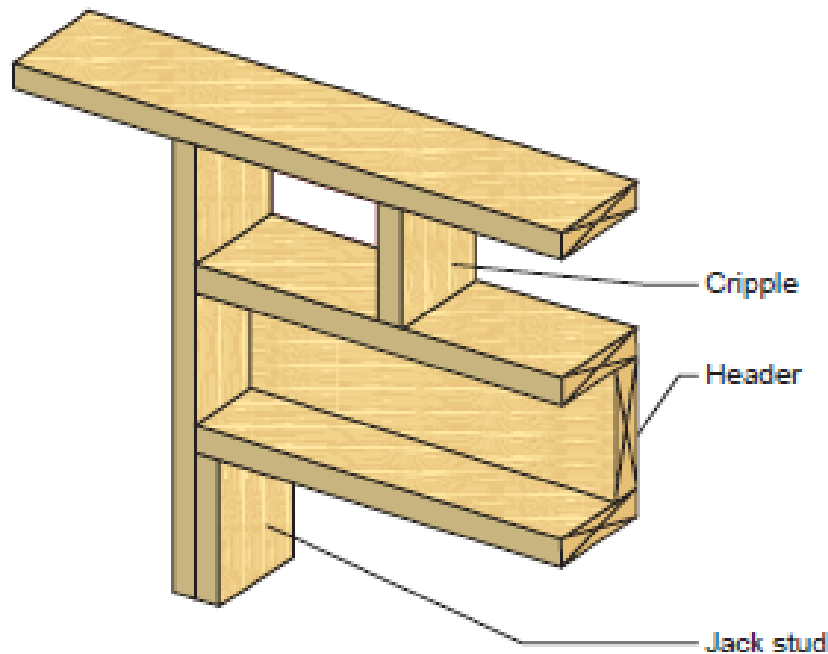
2012 CODE: R602.7.1 Single Member Headers.

Single headers shall be framed with a single flat 2-inch nominal member or wall plate not less in width than the wall studs on the top and bottom of the header in accordance with Figures R602.7.1(1) and R602.7.1(2).

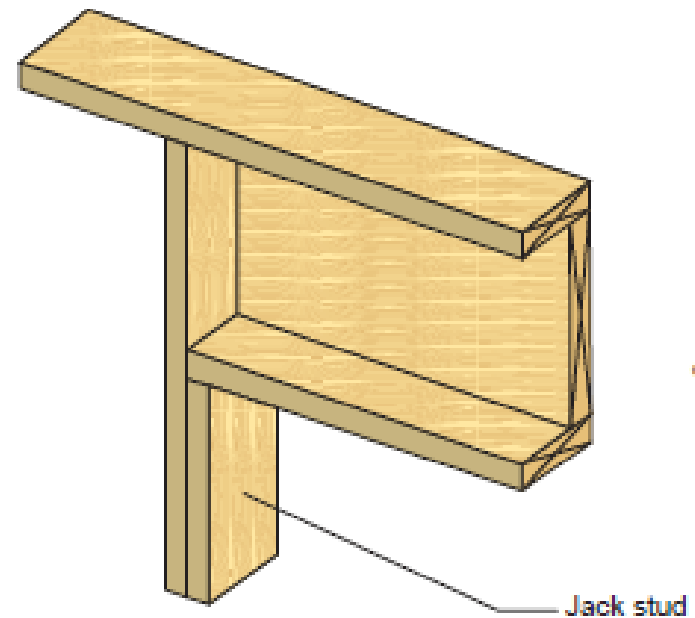
See Table R602.7.1 for details

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Figures R602.7.1(1) and R602.7.1(2).



Single member header with cripple wall



Alternate single member header without cripple

Single member headers

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WALL BRACING

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2015 CODE: R602.10.10 Panel joints. Vertical joints of panel sheathing shall occur over, and be fastened to, common studs. Horizontal joints in *braced wall panels* shall occur over, and be fastened to, common blocking of a minimum 1 ½ inch (38 mm) thickness.

Exceptions:

1. Vertical joints of panel sheathing shall be permitted to occur over double studs, where adjoining panel edges are attached to separate studs with the required panel edge fastening schedule, and the adjacent studs are attached together with two rows of 10d box nails [3 inches by 0.128 inch (76.2 mm by 3.25 mm)] at 10 inches o.c. (254 mm).
2. Blocking at horizontal joints shall not be required in wall segments that are not counted as *braced wall panels*.

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CHAPTER 7

WALL COVERING

2015 IRC Update

2012 CODE: R703.8 Flashing. Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes* used as flashing shall comply with AAMA 711. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at all of the following locations:

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1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:

1.2. In accordance with the flashing design or method of a registered design professional.

1.3. In accordance with other approved methods.

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1.1. The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Openings using pan flashing shall also incorporate flashing or protection at the head and sides.

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1.2. In accordance with the flashing design or method of a registered design professional.

1.3. In accordance with other approved methods.

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Numerous modifications, reorganizations, & clarifications to the wall framing tables in chapter 7. In general review them and become familiar as to how they have changed.

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CHAPTER 8

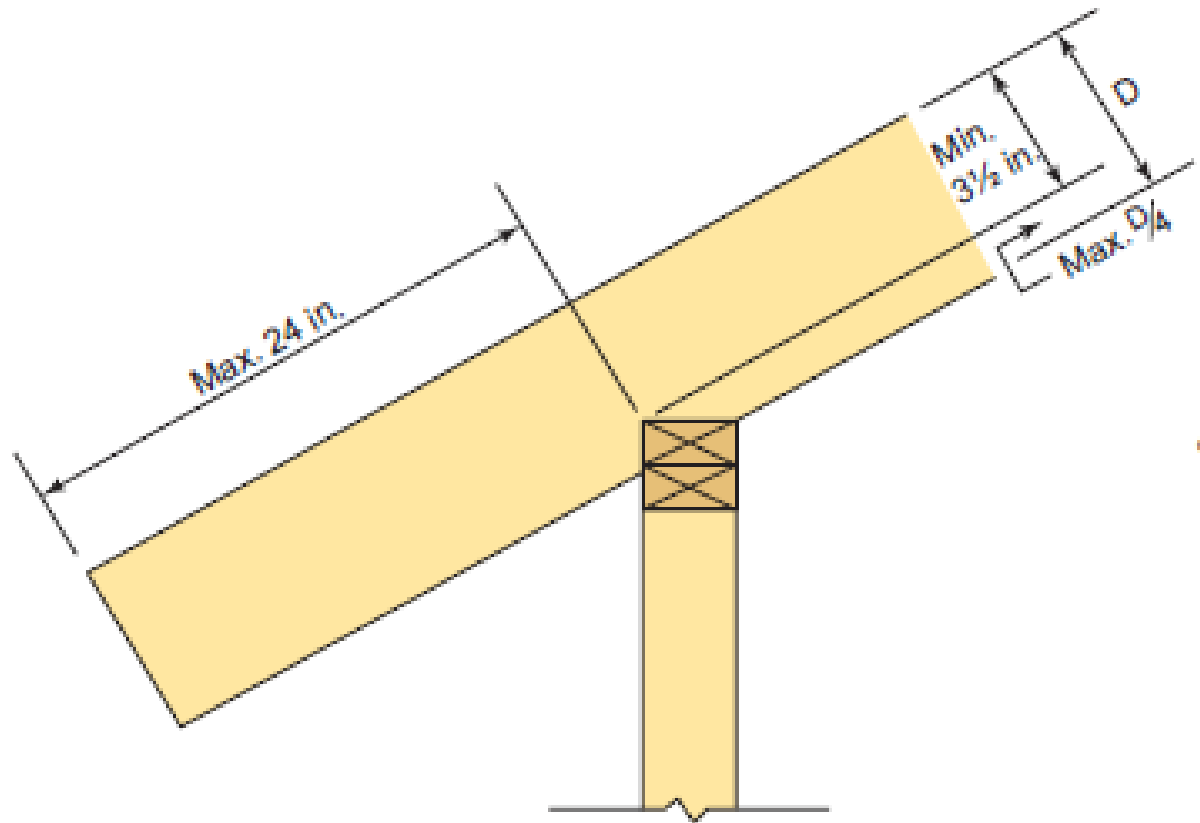
ROOF-CEILING CONSTRUCTION

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2012 CODE: R802.7.1.1 Cantilevered Portions of Rafters. Exception: Notches on cantilevered portions of rafters are permitted provided the dimension of the remaining portion of the rafter is not less than 4 3½ inches nominal (102 89 mm) and the length of the cantilever does not exceed 24 inches (610 mm) in accordance with Figure R802.7.1.1.

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Figure
R802.7.1.1



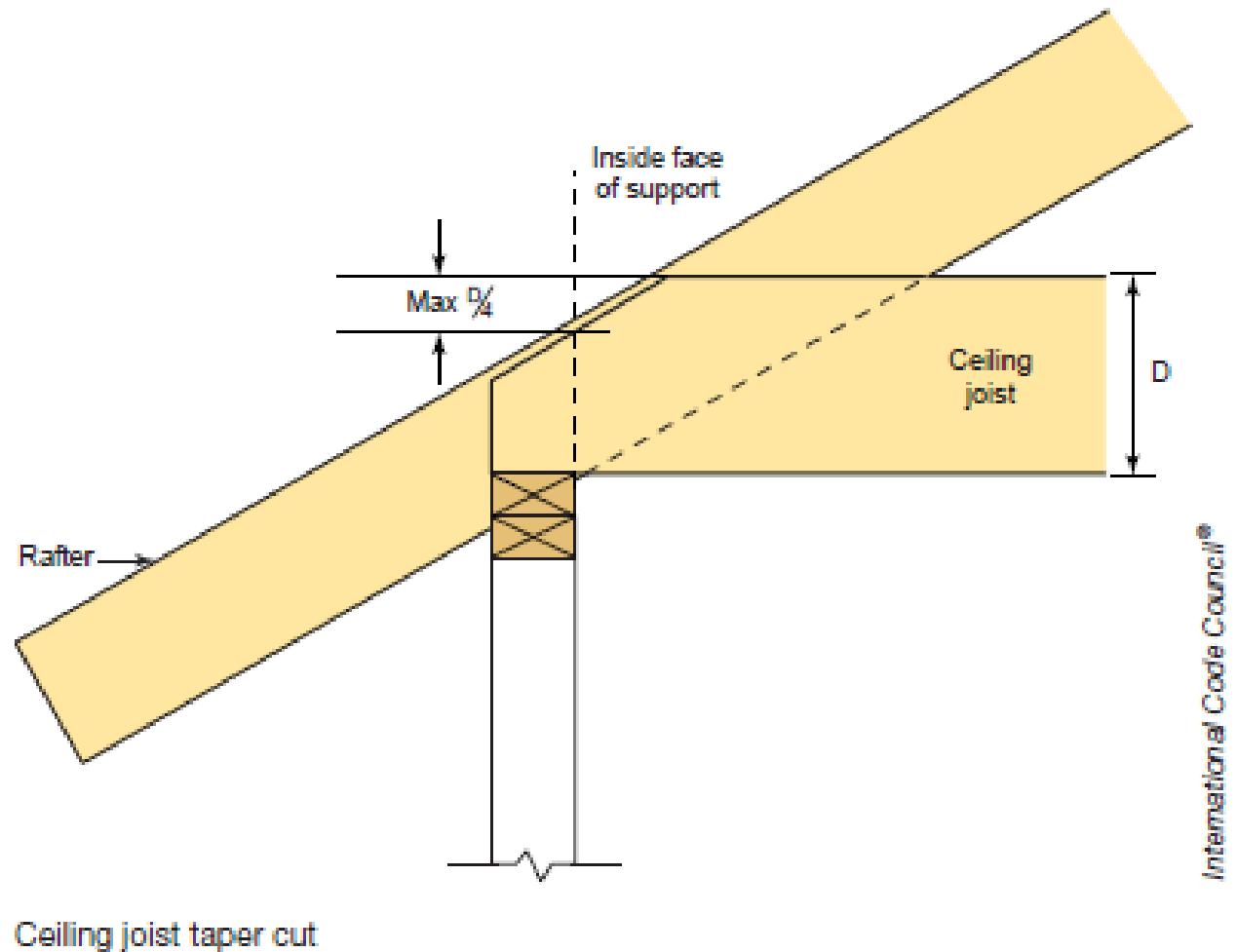
Cantilevered rafter

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2012 CODE: R802.7.1.2 Ceiling Joist Taper Cut. Taper cuts at the ends of the ceiling joist shall not exceed one-fourth the depth of the member in accordance with Figure R802.7.1.2.

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Figure
R802.7.1.2



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CHAPTER 9 ROOF ASSEMBLIES

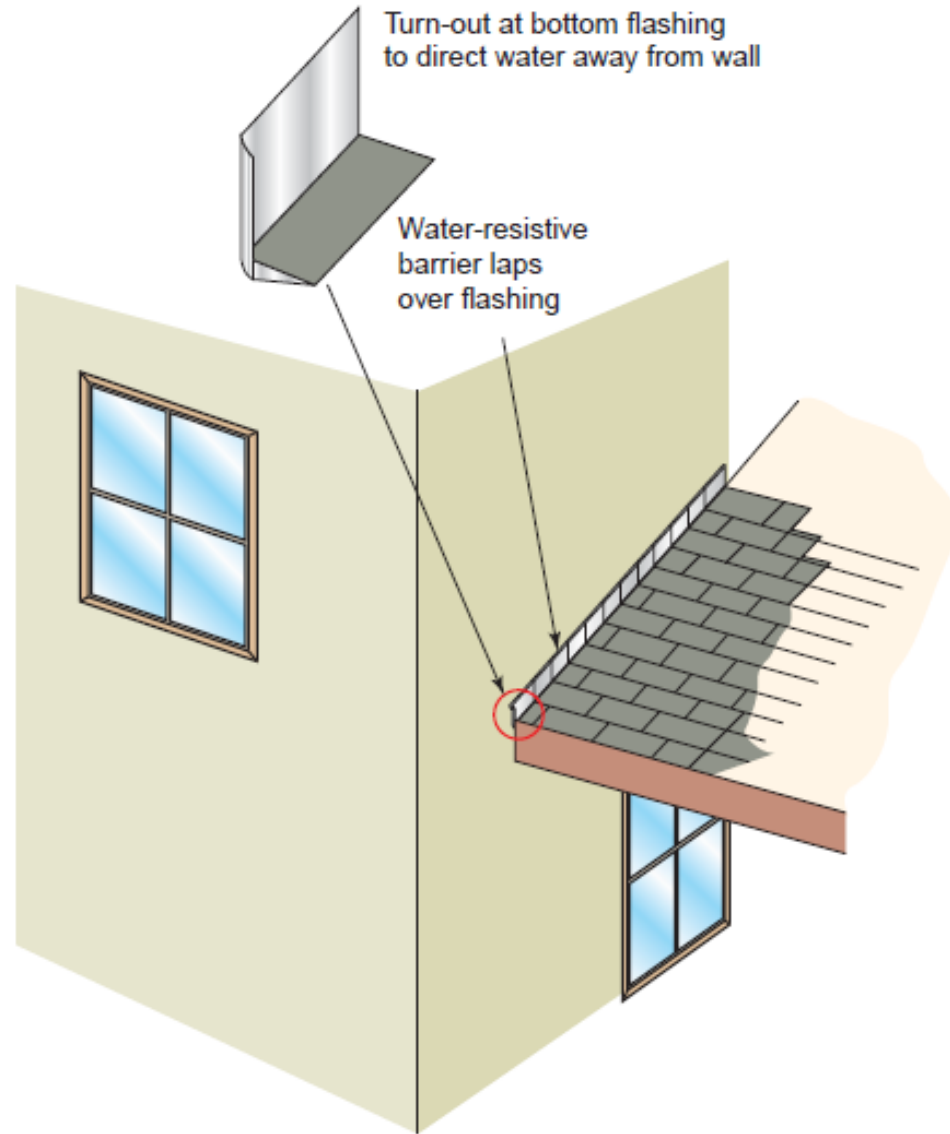
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2012 CODE: R903.2.1 Locations. Flashings shall be installed at wall and roof intersections, wherever there is a change in roof slope or direction and around roof openings. A flashing shall be installed to divert the water away from where the eave of a sloped roof intersects a vertical sidewall.

Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inch (0.5 mm) (No. 26 galvanized sheet).

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2012 CODE:
903.2.1



Kick-out flashing required for all roofing materials at sidewall flashing termination.

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2012 CODE: R905.2.8.5 Drip Edge. A drip edge shall be provided at eaves and gables of shingle roofs. Adjacent pieces of drip edge shall be overlapped a minimum of 2 inches (51 mm). Drip edges shall extend a minimum of 0.25 inch (6.4 mm) below the roof sheathing and extend up the roof deck a minimum of 2 inches (51 mm). Drip edges shall be mechanically fastened to the roof deck at a maximum of 12 inches (305 mm) on center with fasteners as specified in Section R905.2.5. Underlayment shall be installed over the drip edge along eaves and under the drip edge on gables. Unless specified differently by the shingle manufacturer, shingles are permitted to be flush with the drip edge.

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CHAPTER 11 ENERGY EFFICIENCY

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2012 CODE: The entire chapter was replaced with the contents from the 2012 IECC residential requirements to eliminate the discrepancies between the two codes.

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THE FOLLOWING BCRB AMENDMENTS EXPIRE ON March 15, 2022

RE-15-33-18 table N1102.1.2 modifies the exterior wall insulation value for zone six back to the 2009 values of 20 or 13 + 5 *20 + 5 or 13 + 10*

RE-15-37-18 section N1101.5 modifies the information required on construction documents

RE-15-39-18 section N1102.1 adds language that excludes specific areas that are not part of the conditioned building envelope. (?)*

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THE FOLLOWING BCRB AMENDMENTS EXPIRE ON March 15, 2022

RE-15-40-18 section N1102.4.1.2 reverts the ACH rate back to 7.0 *3.0*

RE-15-42-18 section N1103.6 Mandatory Mechanical Ventilation **deleted**

RE-15-43-18 table N1102.1.2 same effect as RE-15-33-18 (duplication of efforts?)

Interesting to note only item not expiring is duct leakage. ??????

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2015 Code: N1101.13 (R401.2) Compliance. Projects shall comply with Sections identified as “mandatory” and with either sections identified as “prescriptive” or the performance approach in Section N1105. one of the following:

- 1.** Sections N1101.14 through N1104.
- 2.** Section N1105 and the provisions of Sections N1101.14 through N1104 labeled “Mandatory.”
- 3.** An energy rating index (ERI) approach in Section N1106.

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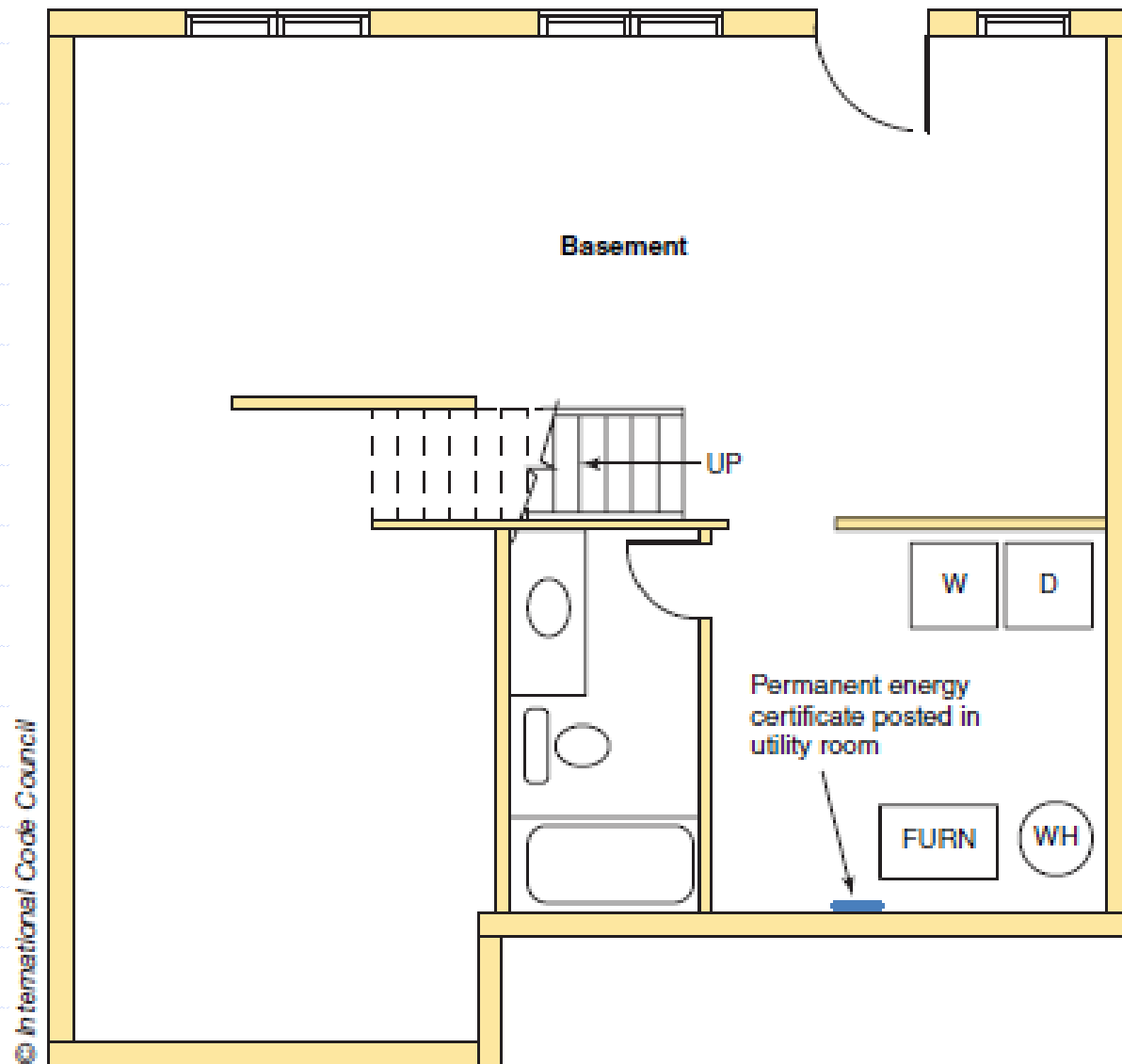
2015 Code: N1101.14 (R401.3) Certificate (Mandatory).

A permanent certificate shall be completed by the builder or registered design professional and posted on or in the electrical distribution panel a wall in the space where the furnace is located, a utility room, or an approved location inside the building by the builder or registered design professional. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls,

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foundation (slab, basement wall, crawlspace wall, and/or floor), and ducts outside conditioned spaces; *U*-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling, and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace," or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces, or electric baseboard heaters.

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A permanent energy certificate must be posted inside the building.

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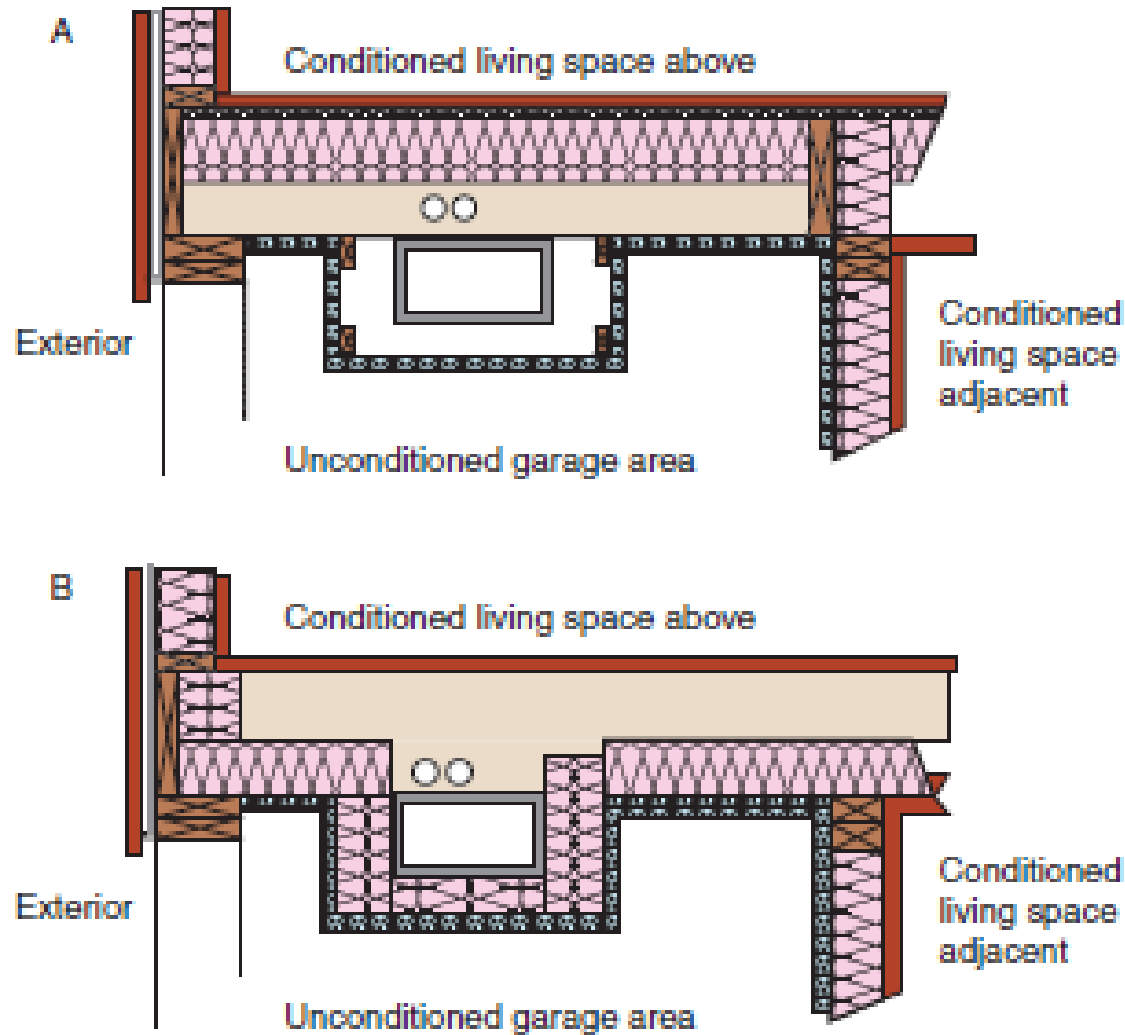
2012 CODE: N1102.4.1.2 (R402.4.1.2) Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour in Climate Zones 1 and 2, and **three air changes per hour** in Climate Zones 3 through 8. Testing shall be conducted in accordance with ASTM E779 or ASTM E1827 and reported at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the *code official*, testing shall be conducted by an *approved* third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

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2015 Code: N1102.2.8 (R402.2.8) Floors. Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of the subfloor decking.

Exception: The floor framing cavity insulation shall be permitted to be in contact with the topside of sheathing or continuous insulation installed on the bottom side of floor framing where combined with insulation that meets or exceeds the minimum wood frame wall *R*-value in Table N1102.1.2 and that extends from the bottom to the top of all perimeter floor framing members.

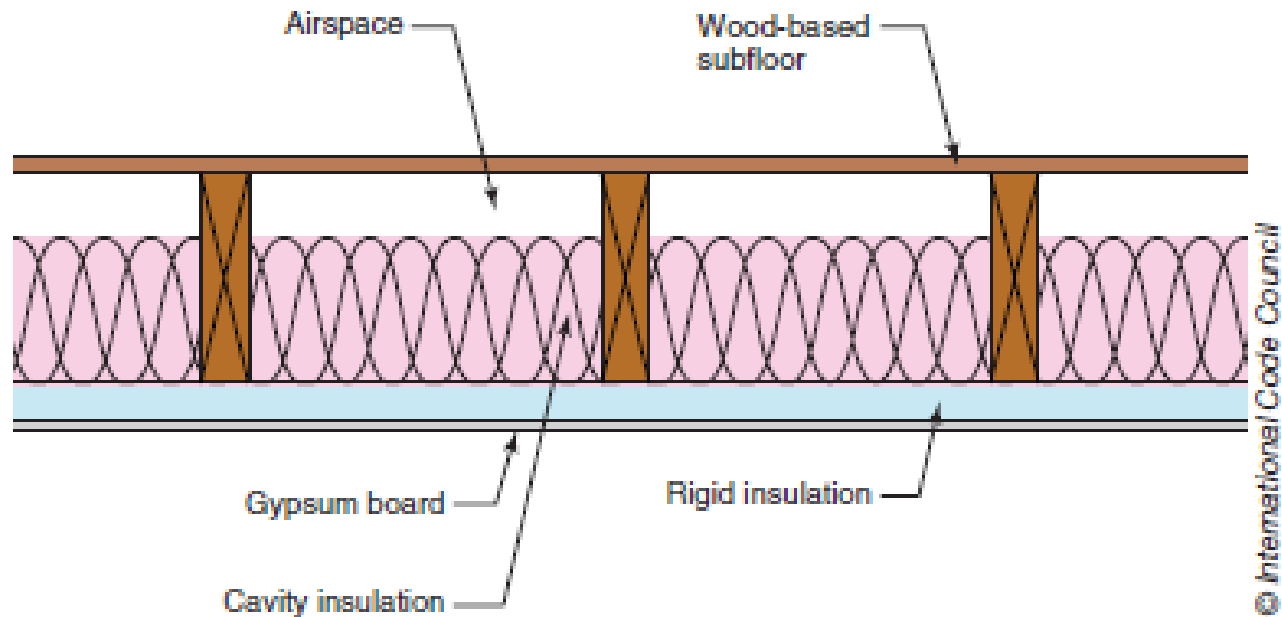
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Two options for floor insulation above unconditioned space

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Option for floor insulation above rigid insulation

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2015 CODE: N1103.3.3 (R403.3.3) Duct testing (Mandatory).

Ducts shall be pressure tested to determine air leakage by one of the following methods:

- 1. Rough-in test:** Total leakage shall be measured with a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
- 2. Postconstruction test:** Total leakage shall be measured with a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

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Exception: A duct air leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.

A written report of the results of the test shall be signed by the party conducting the test and provided to the building official.

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2015 CODE: N1103.3.4 (R403.3.4) Duct leakage (Prescriptive). The total leakage of the ducts, where measured in accordance with Section N1103.3.3, shall be as follows:

- 1. Rough-in test:** The total leakage shall be less than or equal to **4 cubic feet per minute** (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to **3 cubic feet per minute** (85 L/min) per 100 square feet (9.29 m²) of conditioned floor area.
- 2. Postconstruction test:** The total leakage shall be less than or equal to **4 cubic feet per minute** (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area.

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2015 Code: N1103.5 (R403.5) Service hot water systems. Energy conservation measures for service hot water systems shall be in accordance with Sections N1103.5.1 and N1103.5.4.

N1103.5.1 (R403.5.1) Heated water circulation and temperature maintenance systems (Mandatory).

N1103.5.1.1 (R403.5.1.1) Circulation systems.

N1103.5.1.2 (R403.5.1.2) Heat trace systems.

Change Significance: Service water heating supplies hot water to the dwelling unit for purposes other than comfort heating. This is the dwelling's hot water supply for bathing, washing, kitchen sink, laundry, and similar uses. **Heated water circulation and temperature maintenance systems are not required, but when installed they must meet the mandatory requirements of Section N1103.5.**

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2015 CODE: N1103.6 (R403.6) Mechanical ventilation (Mandatory).

The building shall be provided with ventilation that meets the requirements of Section M1507 of this code or the *International Mechanical Code*, as applicable, or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

Not effective until March 15, 2022.

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CHAPTER 15

EXHAUST SYSTEMS

2015 IRC Update

2012 CODE: M1502.4.4.1 Specified Length. The maximum length of the exhaust duct shall be 35 feet (7620 10 668 mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.4.1. The maximum length of the exhaust duct does not include the transition duct.

2015 IRC Update

2012 CODE: M1502.4.2 Duct Installation. Exhaust ducts shall be supported at 4-foot (1219 mm) intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

2015 IRC Update

2015 CODE: M1502.4.4 Dryer Exhaust Duct Power Ventilators. Domestic dryer exhaust duct power ventilators shall conform to UL 705 for use in dryer exhaust duct systems. The dryer exhaust duct power ventilator shall be installed in accordance with the manufacturer's instructions.

M1502.4.5.3 Dryer Exhaust Duct Power Ventilator. The maximum length of the exhaust duct shall be determined in accordance with the manufacturer's instructions for the dryer exhaust duct power ventilator.

2015 IRC Update



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Dryer exhaust duct power ventilator (DEDPV)

2015 IRC Update

2015 CODE: M1502.4.6 Length Identification. Where the exhaust duct equivalent length exceeds 35 feet (10 668 mm) is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.

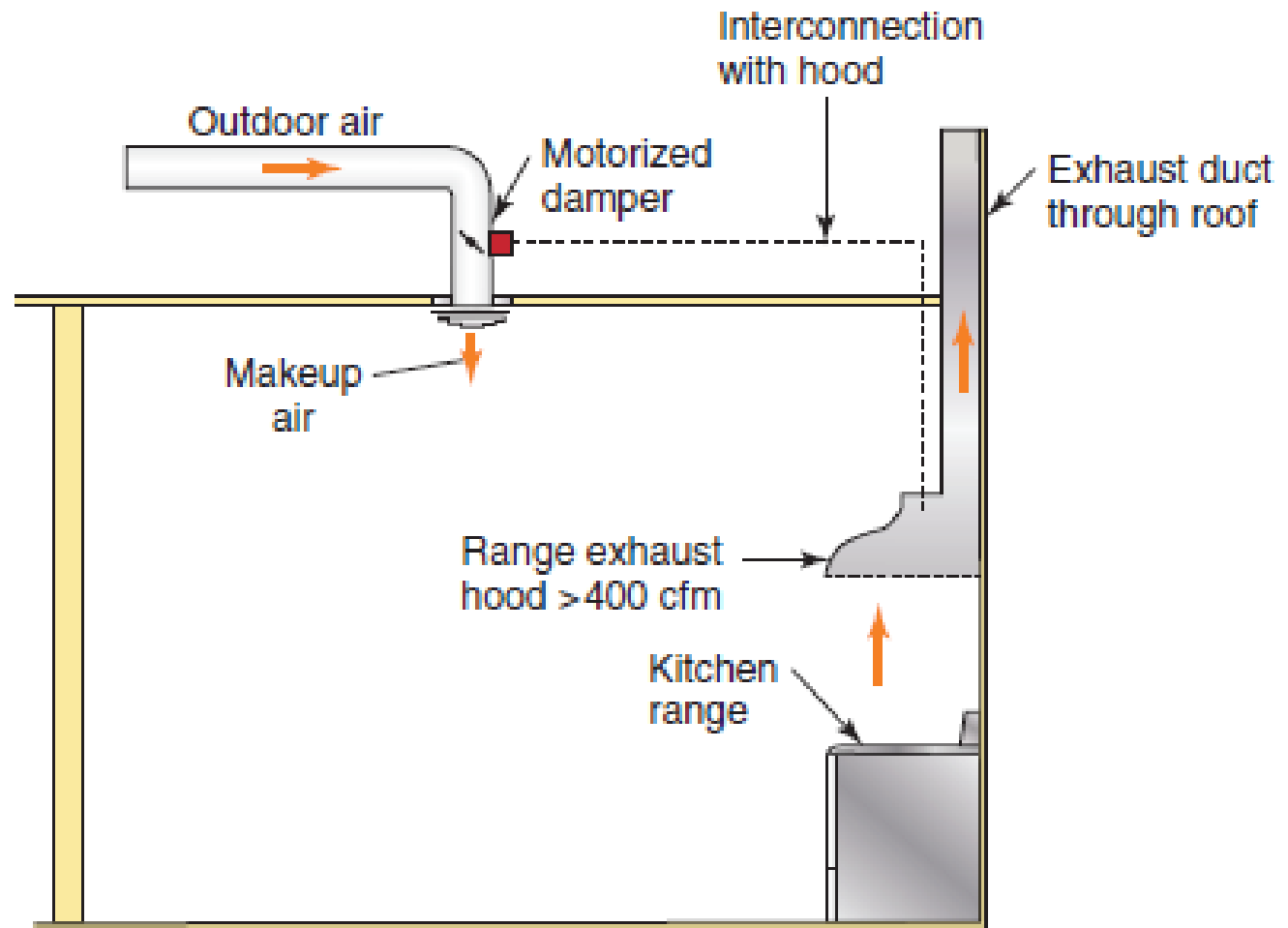
2015 IRC Update

2015 CODE: M1503.4 Makeup Air Required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced.

2015 IRC Update

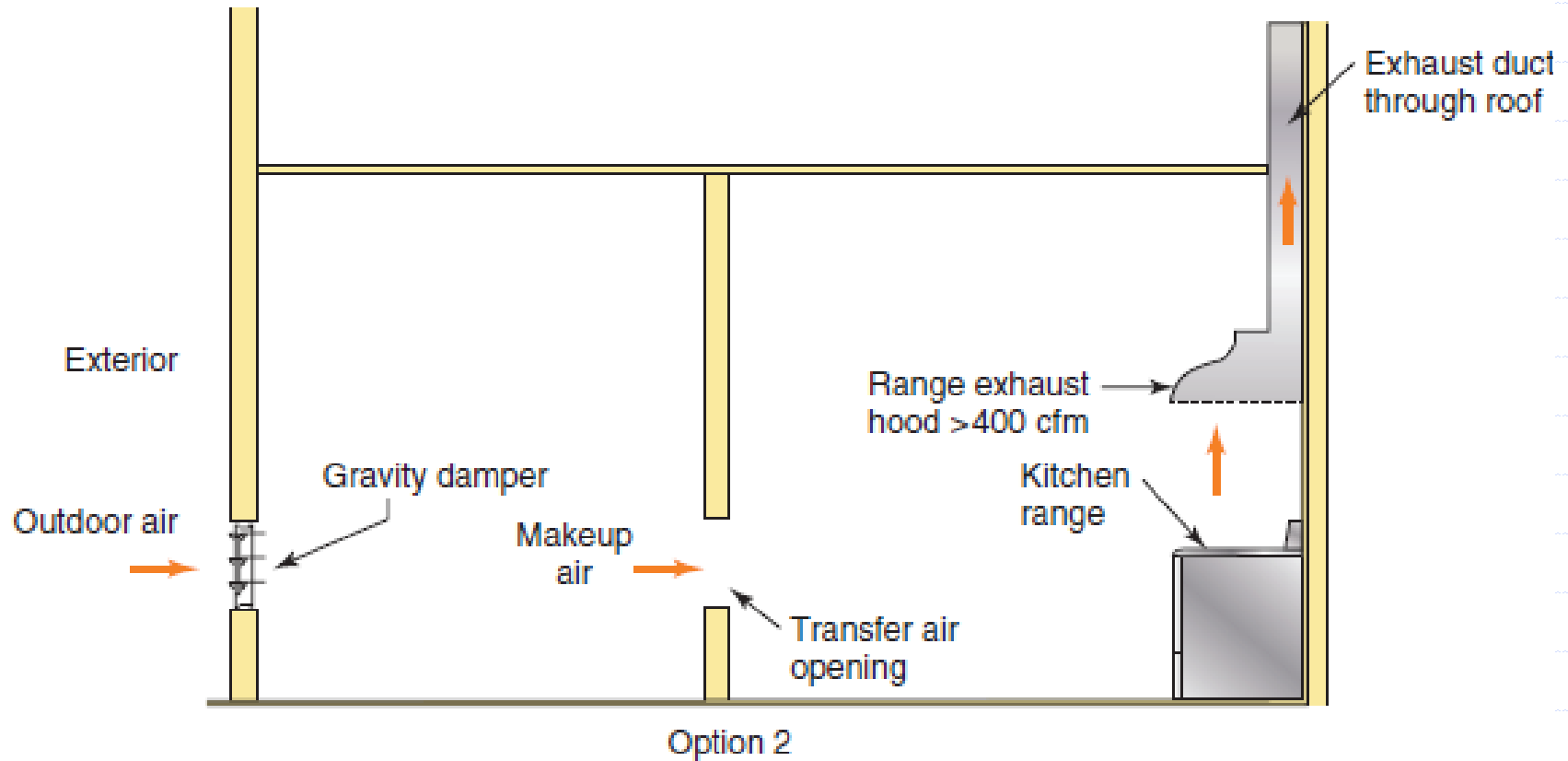
M1503.4.1 Location. Kitchen exhaust makeup air shall be discharged into the same room in which the exhaust system is located or into rooms or duct systems that communicate through one or more permanent openings with the room in which such exhaust system is located. Such permanent openings shall have a net cross-sectional area not less than the required area of the makeup air supply openings.

2015 IRC Update



Option 1

2015 IRC Update



Required makeup air for kitchen exhaust hoods exceeding 400 cfm

2015 IRC Update

2015 code: M1506.2. Duct Length. The length of exhaust and supply ducts used with ventilating equipment shall not exceed the lengths determined in accordance with Table M1506.2.

Exception: Duct length shall not be limited where the duct system complies with the manufacturer's design criteria or where the flow rate of the installed ventilating equipment is verified by the installer or approved third party using a flow hood, flow grid or other airflow measuring device.

2015 IRC Update

TABLE M1506.2 Duct Length

Duct Type	Flex Duct								Smooth-Wall Duct							
Fan airflow rating (CFM @ 0.25 inch wc ^a)	50	80	100	125	150	200	250	300	50	80	100	125	150	200	250	300
Diameter ^b (inches)	Maximum length ^{c, d, e} (feet)															
3	X	X	X	X	X	X	X	X	5	X	X	X	X	X	X	X
4	56	4	X	X	X	X	X	X	114	31	10	X	X	X	X	X
5	NL	81	42	16	2	X	X	X	NL	152	91	51	28	4	X	X
6	NL	NL	158	91	55	18	1	X	NL	NL	NL	168	112	53	25	9
7	NL	NL	NL	NL	161	78	40	19	NL	NL	NL	NL	NL	148	88	54
8 and above	NL	NL	NL	NL	NL	189	111	69	NL	NL	NL	NL	NL	NL	198	133

a. Fan airflow rating shall be in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51.

b. For non-circular ducts, calculate the diameter as four times the cross-sectional area divided by the perimeter.

c. This table assumes that elbows are not used. Fifteen feet (5 m) of allowable duct length shall be deducted for each elbow installed in the duct run.

d. NL = no limit on duct length of this size.

e. X = not allowed. Any length of duct of this size with assumed turns and fittings will exceed the rated pressure drop.

2015 IRC Update



CHAPTER 16

DUCT SYSTEMS

2015 IRC Update

2015 CODE: M1601.1.1 Above-Ground Duct Systems. Aboveground duct systems shall conform to the following: *changes in items 1 -5 are referencing duct construction standards.*

2015 IRC Update

2015 Code: Section M1602 Return Air

M1602.2 Return Air Openings. Return air openings for heating, ventilation and air-conditioning systems shall comply with all of the following:

1. Openings shall not be located less than 10 feet (3048 mm) measured in any direction from an open combustion chamber or draft hood of another appliance located in the same room or space.
2. The amount of return air taken from any room or space shall be not greater than the flow rate of supply air delivered to such room or space.

2015 IRC Update

3. Return and transfer openings shall be sized in accordance with the appliance or equipment manufacturers' installation instructions, Manual D or the design of the registered design professional.
4. Return air shall not be taken from a closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room or unconditioned attic.

2015 IRC Update



CHAPTER 24
FUEL GAS

2015 IRC Update



CHAPTER 25

PLUMBING SYSTEMS

2015 IRC Update

2015 & 2012 Code: P2503.5.1 Rough Plumbing.

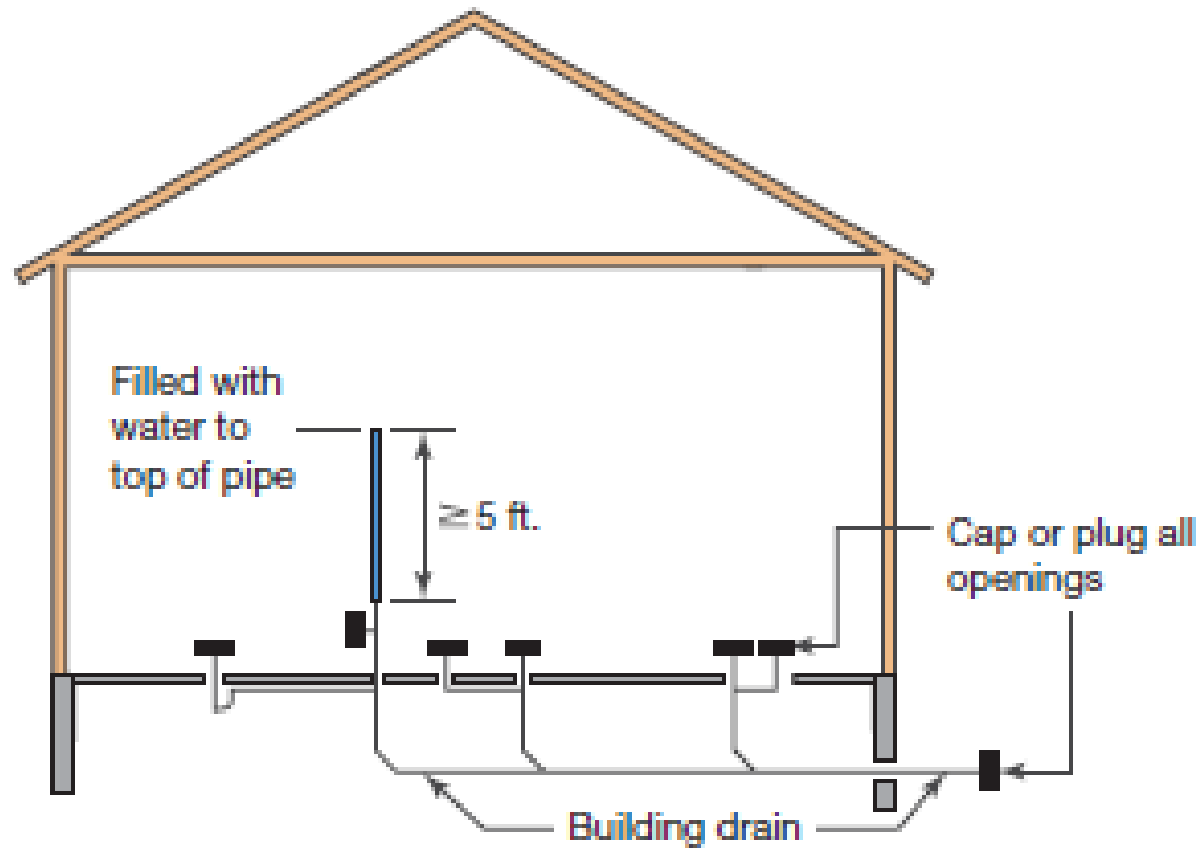
DWV systems shall be tested on completion of the rough piping installation by water or for piping systems other than plastic, by air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:

- 1.** Water test. Each section shall be filled with water to a point not less than 5 feet (3048 1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.

2015 IRC Update

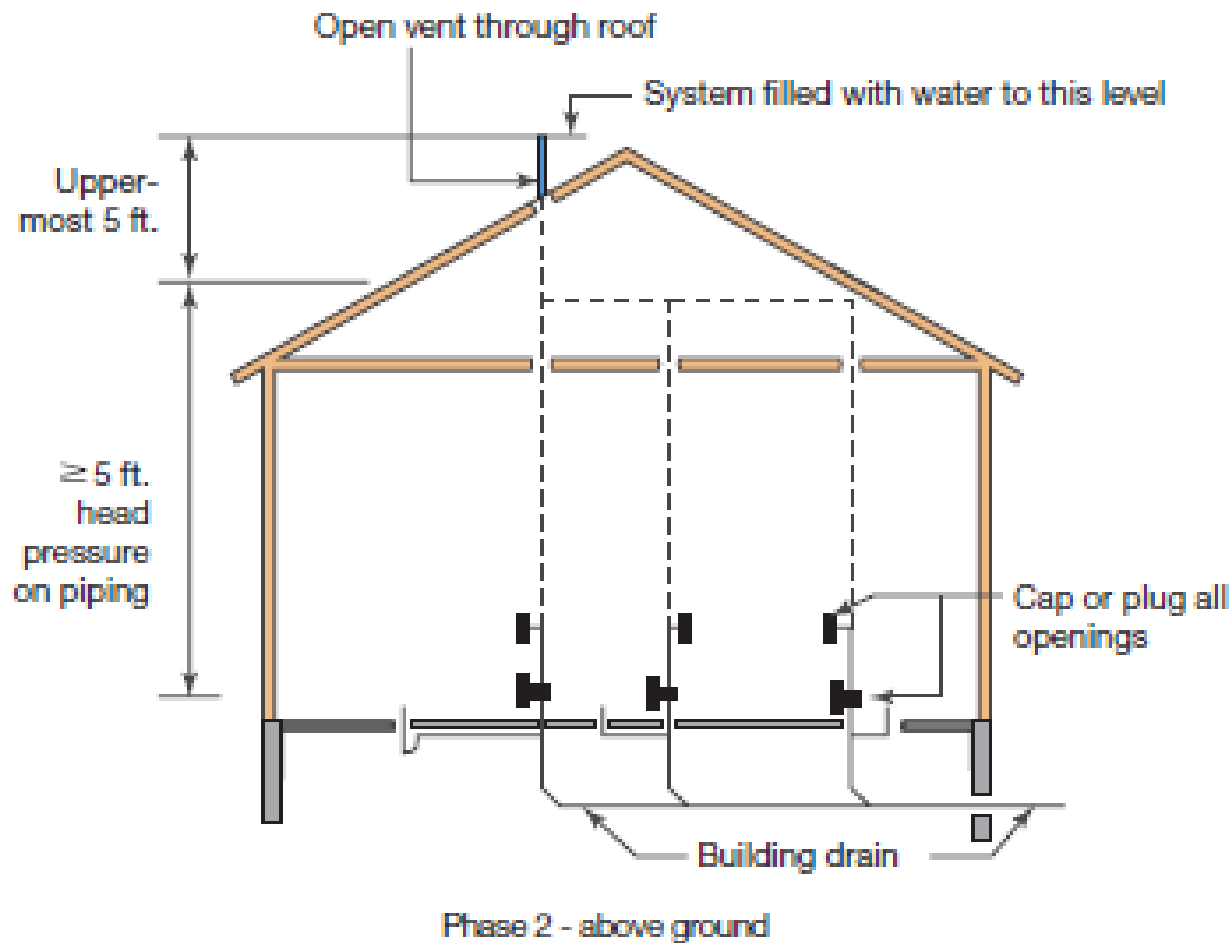
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

2015 IRC Update



Phase 1 - below slab

2015 IRC Update



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Water test on DWV system

2015 IRC Update

2015 CODE: P2603.2.1 Protection Against Physical Damage.

Distance from edge before needing nail plates has been reduce from 1.5" down to 1.25" in order to be uniform with NFPA 70

2015 IRC Update

2015 code: P2801 Water Heater Drain Valves and Pans

Other than some clarification within this section major item to note is this exception:

Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation.

2015 IRC Update

This was previously covered back in chapter 11

2015 CODE: SECTION P2905 HEATED WATER DISTRIBUTION SYSTEMS

Reminder: *hot water recirculation systems are not required under the IRC*

Recirculation requirements are only found in the IPC

2015 IPC: 607.2 Hot or tempered water supply to fixtures. The *developed length* of *hot or tempered water* piping, from the source of hot water to the fixtures that require *hot or tempered water*, shall not exceed 50 feet (15 240 mm). Recirculating system piping and heat-traced piping shall be considered to be sources of *hot or tempered water*. *Not applicable to IRC*

2015 IRC Update

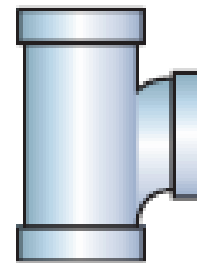
2015 CODE: P3003.9.2 Solvent Cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be installed above or below ground.

2015 IRC Update

Exception: A primer shall not be required where all of the following conditions apply:

- 1.** The solvent cement used is third-party certified as Conforming to ASTM D 2564.
- 2.** The solvent cement is used only for joining PVC drain, waste, and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inches (102 mm) in diameter.

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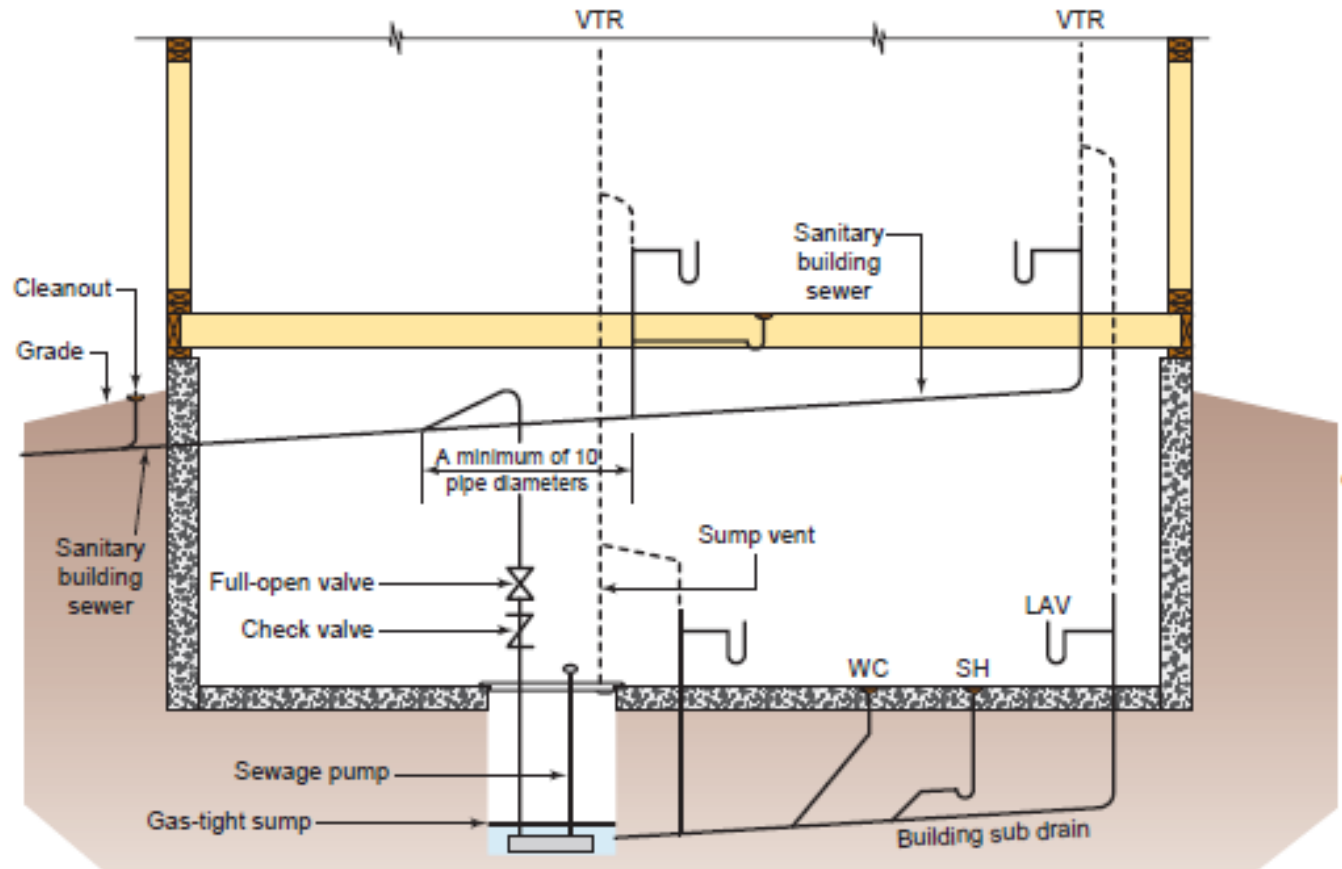


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Purple primer is no longer required for joints of non-pressure PVC DWV piping 4 inches or less in diameter.

2015 IRC Update

**2012
CODE:
P3007.3.5**
**Ejector
Connection
to the
Drainage
System.**

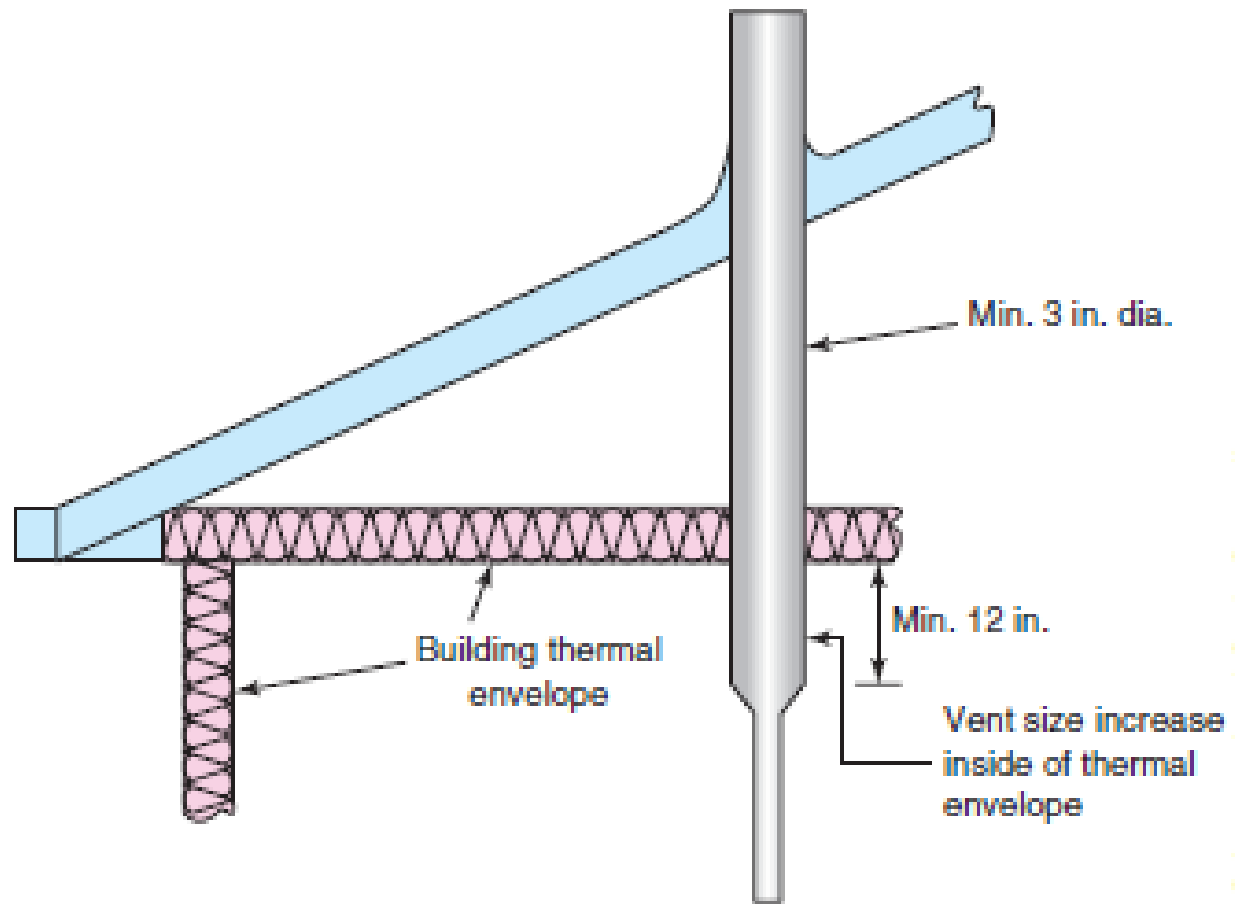


Ejector connection to the drainage system

2015 IRC Update

2015 CODE: P3103.2 Frost Closure. Where the 97.5-percent value for outside design temperature is 0°F (218°C) or less, every vent extensions through a roof or wall shall be not less than 3 inches (76 mm) in diameter. Any increase in the size of the vent shall be made inside the structure not less than 1 foot below the roof or inside the wall inside the thermal envelope of the building.

2015 IRC Update



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Vent terminal requirements to prevent frost closure in cold climates

2015 IRC Update

