CHAPTER 1309
DEPARTMENT OF ADMINISTRATION
INTERNATIONAL RESIDENTIAL CODE

1309.0010 ADOPTION OF INTERNATIONAL RESIDENTIAL CODE (IRC) BY REFERENCE.

Subpart 1. **Generally.** The 2000 edition of the International Residential Code (IRC) as promulgated by the International Code Council (ICC), Falls Church, Virginia, is incorporated by reference and made part of the Minnesota State Building Code except as qualified by the applicable provisions in Minnesota Rules, chapter 1300, and as amended in this chapter. The IRC is not subject to frequent change and a copy of the IRC, with amendments for use in Minnesota, is available in the office of the commissioner of administration.

Subp. 2. **Mandatory chapters.** The 2000 IRC Chapters 2 through 10, 43, and Appendix Chapter K, must be administered by any municipality that has adopted the code, except as qualified by the applicable provisions in Minnesota Rules, chapter 1300, and as amended by this chapter.

Subp. 3. **Replacement chapters.** The following 2000 IRC chapters are being deleted and replaced with the provisions listed below:

A. Chapter 1 of the 2000 IRC and any references to code administration in this code are deleted and replaced with Minnesota Rules, chapter 1300, Minnesota Administration Code.

B. Chapter 11 of the 2000 IRC and any references to energy in this code are deleted and replaced with Minnesota Statutes, section 16B.617.

C. Chapters 12 through 24 of the 2000 IRC and any references to mechanical matters in this code are deleted and replaced with Minnesota Rules, chapter 1346, Minnesota Mechanical Code.

D. Chapters 25 through 32 of the 2000 IRC and any references to plumbing in this code are deleted and replaced with Minnesota Rules, chapter 4715, Minnesota Plumbing Code.

E. Chapters 34 through 42 of the 2000 IRC and references to electrical matters in this code, other than Section R317 Smoke Alarms, are deleted and replaced with Minnesota Rules, chapter 1315, Minnesota Electrical Code.

Subp. 4. **Seismic or earthquake provisions.** Any seismic or earthquake provisions and any references to them are deleted and are not included in this code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0020 REFERENCES TO OTHER ICC CODES.

Subpart 1. **Generally.** References to other codes and standards promulgated by the ICC in the 2000 IRC are modified as indicated in this part.

Subp. 2. **Building code.** References to the International Building Code in this code mean the Minnesota Building Code, adopted pursuant to Minnesota Rules, chapter 1305, and Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 3. **Residential code.** References to the IRC in this code mean the Minnesota Residential Code, adopted under Minnesota Rules, chapter 1309, and Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 4. **Electrical code.** References to the ICC Electrical Code in this code mean the Minnesota Electrical Code, Minnesota Rules, chapter 1315, adopted under Minnesota Statutes, section 326.243.

Subp. 5. **Fuel gas code.** References to the International Fuel Gas Code in this code mean the Minnesota Mechanical Code, Minnesota Rules, chapter 1347, adopted under Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 6. **Mechanical code.** References to the International Mechanical Code in this code mean the Minnesota Mechanical Code, Minnesota Rules, chapter 1346, adopted under Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 7. **Plumbing code.** References to the International Plumbing code in this code mean the Minnesota Plumbing Code, Minnesota Rules, chapter 4715, adopted under Minnesota Statutes, section 16B.61, subdivisions 1 and 2.

Subp. 8. **Private sewage disposal code.** References to the International Private Sewage Disposal Code in this code mean the Minnesota Pollution Control Agency's minimum standards and criteria for individual sewage treatment systems in Minnesota Rules, chapter 7080, adopted under Minnesota Statutes, chapters 103F, 103G, 115, and 116.

Subp. 9. **Energy conservation code.** References to the International Energy Conservation Code in this code mean the Minnesota Energy Code, adopted under Minnesota Statutes, section 16B.617.

Subp. 10. **Property maintenance code.** References to the International Property Maintenance Code in this code do not apply.

Subp. 11. **Accessibility code.** References to accessibility in this code mean the Minnesota Accessibility Code, Minnesota Rules, chapter 1341.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0030 ADMINISTRATIVE PROCEDURE CRITERIA.

Procedures relating to the administration and enforcement of this code under Minnesota Statutes, section 16B.57, are contained in Minnesota Rules, chapter 1300, Minnesota Administration Code. Minnesota Rules, chapter 1300, governs the application of this code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0040 VIOLATION.

A violation of this code is a misdemeanor under Minnesota Statutes, section 16B.69.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0100 CHAPTER 1, ADMINISTRATION.

IBC Chapter 1 is deleted and replaced with the following:

CHAPTER 1

ADMINISTRATION

This code shall be administered according to Minnesota Rules, chapter 1300.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0201 SECTION R201, GENERAL.

IRC Section R201.4 is amended to read as follows:

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this chapter, the Merriam-Webster Collegiate Dictionary, available at www.m-w.com, shall be considered as providing ordinarily accepted meanings. The dictionary is incorporated by reference, is subject to frequent change, and is available through the Minitex interlibrary loan system.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0202 SECTION R202, DEFINITIONS.

IRC Section R202 is amended by adding the following definition:

CRAWL SPACE. Areas or rooms with less than 7 feet (2134 mm) ceiling height measured to the finished floor or grade below.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0301 SECTION R301, DESIGN CRITERIA.

Subpart 1. **Table R301.2(1).** IRC Table R301.2(1) is amended to read as follows:

TABLE R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

		SUBJECT TO DAMAGE FROM		
ROOF SNOW LOAD[d]	WIND SPEED[c] (mph)	WEATHERING[a]	FROST LINE DEPTH[b]	FLOOD HAZARDS
$p_f=0.7 \times p_g$	90	Severe	See M.R. part 1303.1600	See M.R. chapter 1335

For SI: 1 pound per square foot = 0.0479 kN/m.0^2,1 mile per hour = 1.609 km/h

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirement of this code. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216, or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1)

c. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

d. The ground snow loads to be used in determining the design snow loads for buildings and other structures are given in Minnesota Rules, chapter 1303.

Subp. 2. **Figure R301.2(5).** IRC Figure R301.2(5), Ground Snow Loads, Pg, for the United States (lb/ft^2), is deleted in its entirety.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0305 SECTION R305, CEILING HEIGHT.

IRC Section R305.1 is amended to read as follows:

R305.1 Minimum height. Habitable rooms, hallways, corridors, bathrooms, toilet rooms, and basements shall have a ceiling height of not less than 7 feet (2134 mm). The required height shall be measured from the finish floor to the lowest projection from the ceiling. Areas or rooms with ceiling heights less than 7 feet (2134 mm) are considered crawl spaces.

Exceptions:

1. Beams and girders spaced not less than 4 feet (1219 mm) on center may project not more than 6 inches (152 mm) below the required ceiling height.

2. Not more than 50 percent of the required floor area of a room or space is permitted to have a sloped ceiling less than 7 feet (2134 mm) in height with no portion of the required floor area less than 5 feet (1524 mm) in height.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0310 SECTION R310, EMERGENCY ESCAPE AND RESCUE OPENINGS.

IRC Section R310.1 is amended to read as follows:

R310.1 Emergency escape and rescue required. Basements with habitable space and every sleeping room shall have at least one openable emergency escape and rescue window or exterior door opening for emergency escape and rescue. Where openings are provided as a means of escape and rescue, they shall have a sill height of not more than 44 inches (1118 mm) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the window or door opening from the inside. Escape and rescue window openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2. A minimum ceiling height of 48 inches (1210 mm) shall be maintained above the exterior grade from the exterior wall to a public way.

R310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m^2).

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465 m^2).

R310.1.2 Minimum opening height. The minimum net clear opening height shall be 24 inches (610 mm).

R310.1.3 Minimum opening width. The minimum net clear opening width shall be 20 inches (508 mm).

R310.1.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

R310.1.5 Replacement windows. Replacement windows installed in buildings meeting the scope of the International Residential Code shall be exempt from the requirements of Sections R310.1.1, R310.1.2, and R310.1.3 if the replacement window meets the following conditions:

1. The existing height and width net clear opening shall not be reduced by more than 2 inches (51 mm) in either dimension;

2. The rooms or areas are not used for any Minnesota state licensed purpose;

3. The window is not required pursuant to the Minnesota Fire Code;

4. The sleeping room is not undergoing an addition, remodeling, or a change in occupancy; and

5. The window is not required to be replaced pursuant to a locally adopted housing, property maintenance, or rental licensing code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0312 SECTION R312, LANDINGS.

IRC Section R312.1.2 is amended to read as follows:

R312.1.2 Landings at doors. There shall be a floor or landing on each side of each exterior door.

The floor or landing at a door shall not be more than 1.5 inches (38 mm) lower than the top of the threshold.

Exception: The landing at an exterior doorway shall not be more than 8 inches (197 mm) below the top of the threshold, provided that the door, other than an exterior storm or screen door, does not swing over the landing.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1475*

1309.0314 SECTION R314, STAIRWAYS.

IRC Section R314 is amended to read as follows:

R314.1 Width. Stairways shall not be less than 36 inches (914 mm) in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4.5 inches (114 mm) on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and landings, shall not be less than 31.5 inches (787 mm) where a handrail is installed on one side and 27 inches (698 mm) where handrails are provided on both sides.

Exception: The width of spiral stairways shall be in accordance with Section R314.5.

R314.2 Treads and risers. The maximum riser height shall be 8 inches (203 mm) and the minimum tread depth shall be 9 inches (228 mm). The riser height shall be measured vertically between leading edges of the adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The walking surface of treads and landings of a stairway shall be sloped no steeper than one unit vertical in 48 units horizontal (2-percent slope). The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R314.2.1 Profile. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4 inch diameter (102 mm) sphere.

R314.3 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet, 8 inches (2032 mm) measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform.

R314.4 Winders. Winders are permitted, provided that the width of the tread at a point not more than 12 inches (305 mm) from the side where the treads are narrower is not less than 9 inches (228 mm) and the minimum width of any tread is not less than 6 inches (152 mm). The continuous handrail required by Section R315.1 shall be located on the side where the tread is narrower.

R314.5 Spiral stairs. Spiral stairways are permitted, provided the minimum width shall be 26 inches (660 mm) with each tread having a 7-1/2 inch (190 mm) minimum tread width at 12 inches (305 mm) from the narrow edge. All treads shall be identical, and the rise shall be no more than 9-1/2 inches (214 mm). A minimum headroom of 6 feet, 6 inches (1982 mm) shall be provided.

R314.6 Circular stairways. Circular stairways shall have a tread depth at a point not more than 12 inches (305 mm) from the side where the treads are narrower of not less than 10 inches (254 mm) and the minimum depth of any tread shall not be less than 6 inches (152 mm). Tread depth at any walking line, measured a consistent distance from a side of the stairway, shall be uniform as specified in Section R314.2.

R314.7 Illumination. All stairs shall be provided with illumination in accordance with Section R303.4.

R314.8 Under stair protection. Enclosed accessible space under stairs shall have walls, under stair surface, and any soffits protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.

R314.9 Bulkhead enclosure stairways. Stairways serving bulkhead enclosures that are not part of the required building egress and providing access from the outside grade level to the basement shall be exempt from the requirements of Sections R312, R314, and R315 when the maximum height from the basement finished floor level to grade adjacent to the stairway is covered by a bulkhead enclosure with hinged doors or other approved means.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0315 SECTION R315, HANDRAILS.

IRC Section R315.1 is amended to read as follows:

R315.1 Handrails. Handrails having minimum and maximum heights of 34 inches and 38 inches (864 mm and 965 mm), respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of stairways. All required handrails shall be continuous the full length of the stairs with four or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight. Ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1.5 inches (38 mm) between the wall and the handrail.

Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at a turn.

2. The use of volute, turnout, or starting easing is allowed over the lowest tread.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0316 SECTION R316, GUARDS.

IRC Section R316.2 is amended to read as follows:

R316.2 Guard opening limitations. Required guards on open sides of stairways, raised floor areas, balconies, and porches shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches (102 mm) in diameter.

Exception: The triangular openings formed by the riser, tread, and bottom rail of a guard at the open side of a stairway are permitted to be of a size such that a sphere 6 inches (152 mm) cannot pass through.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0317 SECTION R317, SMOKE ALARMS.

IRC Section R317.1.1 is amended to read as follows:

R317.1.1 Alterations, repairs or additions. When interior alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hardwired.

Exceptions:

1. Smoke alarms in existing areas shall not be required to be interconnected and hardwired where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is a crawl space or basement available which could provide access for hardwiring and interconnection without the removal of interior finishes.

2. Work on the exterior which does not require entry into the interior for inspection.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0318 SECTION R318, FOAM PLASTIC.

IRC Section R318.2 is amended by adding a subsection as follows:

R318.2.7 Sill plate and headers. Foam plastic shall be permitted to be spray-applied to a sill plate and header (rim joist) without thermal barrier if all of the following conditions exist:

1. The maximum thickness of the foam plastic shall not exceed 3-1/4 inches (82.6 mm).

2. The density of the foam plastic shall be between 1.5 and 2.0 pcf (24 to 32 kg/m).

3. The foam plastic shall have a flame spread index of 25 or less and an accompanying smoke developed index of 450 or less when tested in accordance with ASTM E84.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0322 SECTION R322, MOISTURE VAPOR RETARDERS.

IRC Section R322.1 is amended to read as follows:

R322.1 Moisture control. In all framed walls, floors, and roof/ceilings comprising elements of the building thermal envelope, a vapor retarder shall be installed on the warm-in-winter side of the insulation.

Exception: In construction where moisture or freezing will not damage the materials.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0403 SECTION R403, FOOTINGS.

IRC Section R403.1.6 is amended to read as follows:

R403.1.6 Foundation anchorage. When braced wall panels are supported directly on continuous foundations, the wall wood sill plate or cold-formed steel bottom track shall be anchored to the foundation in accordance with this section.

The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. Anchor bolts shall also be located within 12 inches (305 mm) from the

ends of each plate section. Bolts shall be at least 1/2 inch (12.7 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or concrete. Interior bearing wall sole plates on monolithic slab foundations shall be positively anchored with approved fasteners. A nut and washer shall be tightened on each bolt to the plate. Sills and sole plates shall be protected against decay and termites where required by Sections R322 and R323. Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1. When vertical reinforcing is required by other sections of this code, the foundation anchor bolts shall align with the reinforcing. All anchor bolts installed in masonry shall be grouted in place with at least 1 inch (25 mm) of grout between the bolt and the masonry.

Exception: Foundation anchor straps spaced as required to provide equivalent anchorage to 1/2-inch-diameter (12.7 mm) anchor bolts. When vertical reinforcing is required by other sections of this code, the foundation anchor straps shall align with the reinforcing.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0404 SECTION R404, FOUNDATION WALLS.

Subpart 1. **Section R404.1.1.** IRC Section R404.1.1 is amended to read as follows:

R404.1.1 Masonry foundation walls. Concrete masonry and clay masonry foundation walls shall be constructed as set forth in Table R404.1.1(2), Tables R404.1.1(3) and R404.1.1(4), and shall also comply with the provisions of this section and the applicable provisions of Sections R606, R607, and R608. If foundation walls are parallel to floor framing, solid blocking or diagonal bracing must be installed at the anchor bolt locations in the first two joist or truss spaces.

Subp. 2. **Section R404.1.2.** IRC Section R404.1.2 is amended to read as follows:

R404.1.2 Concrete foundation walls. Concrete foundation walls shall be constructed as set forth in Table R404.1.1(2), Tables R404.1.1(3) and R404.1.1(4), and shall also comply with the provisions of this section and the applicable provisions of Section R404.2. If foundation walls are parallel to floor framing, solid blocking or diagonal bracing must be installed at the anchor bolt locations in the first two joist or truss spaces.

Subp. 3. **IRC Table R404.1.1(1).** IRC Table R404.1.1(1), plain concrete and plain masonry foundation walls, is deleted in its entirety.

Subp. 4. **IRC Table R404.2.3.** IRC Table R404.2.3, plywood grade and thickness for wood foundation construction, is amended by adding a footnote as follows:

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, and 1 pound per cubic foot = 0.1572 kN/m^3.

a. Plywood shall be of the following minimum grades in accordance with DOC PS 1 or DOC PS 2:

1. DOC PS 1 Plywood grades marked:

1.1. Structural I C-D (Exposure 1)

1.2. C-D (Exposure 1)

2. DOC PS 2 Plywood grades marked:

2.1. Structural I Sheathing (Exposure 1)

2.2. Sheathing (Exposure 1)

3. Where a major portion of the wall is exposed above ground and a better appearance is desired, the following plywood grades marked exterior are suitable:

3.1. Structural I A-C, Structural I B-C, or Structural I C-C (Plugged) in accordance with DOC PS 1

3.2. A-C Group 1, B-C Group 1, C-C (Plugged) Group 1, or MDO Group 1 in accordance with DOC PS 1

3.3. Single Floor in accordance with DOC PS 1 or DOC PS 2

b. Minimum thickness 15/32 inch, except crawl space sheathing may be 3/8 inch for face grain across studs 16 inches on center and maximum 2-foot depth of unequal fill.

c. For this fill height, thickness and grade combination, panels that are continuous over less than three spans (across less than three stud spacings) require blocking 16 inches above the bottom plate. Offset adjacent blocks and fasten through studs with two 16d corrosion-resistant nails at each end.

d. Fastening shall be in accordance with Section R323.3.

e. This table is not intended to prohibit the use of a manufacturer's or a national association's tables that are based on engineering analysis in accordance with AF&PA Report No. 7 and AF&PA NDS.

Subp. 5. **IRC Tables R404.4(2) and R404.4(3).** IRC Tables R404.4(2) and R404.4(3) are amended by modifying footnote [b] as follows:

[b] N/R denotes "design required."

Subp. 6. **IRC Table R404.4(4).** IRC Table R404.4(4) is amended by modifying footnote [a] as follows:

[a] N/R denotes "design required."

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0506 SECTION R506, CONCRETE FLOORS (ON GROUND).

IRC Section R506.2.3 is amended to read as follows:

R506.2.3 Vapor retarder. An approved vapor retarder with joints lapped not less than 6 inches (153 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists.

Exception: The vapor retarder may be omitted:

1. From garages, utility buildings, and other unheated accessory structures.

2. From driveways, walks, patios, and other flatwork not likely to be enclosed and heated at a later date.

3. Where approved by the building official, based on local site conditions.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*

1309.0703 SECTION R703, EXTERIOR COVERING.

Subpart 1. **Section R703.2.** IRC section R703.2 is amended to read as follows:

R703.2 Weather-resistive sheathing paper. A minimum of one layer of No. 15 asphalt felt complying with ASTM D 226 for Type 1 felt or other approved weather-resistive material shall be applied over sheathing of all exterior walls. See Table R703.4. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). Building paper or other approved material shall be continuous up to the underside of the rafter or truss top chord and terminated at penetrations and building appendages in such a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.

Exception: Such felt or material is permitted to be omitted in the following situations:

1. In detached accessory buildings.

2. Where specifically prohibited by a sheathing and/or siding manufacturer.

Subp. 2. **Table R703.4.** IRC Table R703.4 is amended to read as follows:

TABLE R703.4

WEATHER-RESISTANT SIDING ATTACHMENT AND MINIMUM THICKNESS [abcdefghijklmnopq]

Siding material	Nominal Thickness[a] (inches)	Joint Treatment	Sheathing Paper Required
Horizontal aluminum[e]			
Without insulation	0.019[f]	Lap	Yes
	0.024	Lap	Yes
With insulation	0.019	Lap	Yes
Brick veneer	2	Section R703	Yes
Concrete masonry veneer	2		
Hardboard[l]			Yes
Panel siding-vertical	7/16	Note q	Note q
Sliding vertical Hardboard[l] Lap-siding-horizontal	7/16	Note q	Yes Note q
Steel[l]	29 ga.	Lap	Yes
Stone veneer	2	Section R703	Yes
Particleboard panels	3/8 - 1/2	Note g	Yes Note g
	5/8	Note g	Yes Note g
Plywood panel[j] (exterior grade)	3/8	Note g	Yes Note g
Vinyl Siding[n]	0.035	Lap	Yes
Wood[k] Rustic, drop	3/8 Min	Lap	Yes

Shiplap	19/32 Average	Lap	Yes
Bevel	7/16	Lap	Yes
Butt tip	3/16	Lap	Yes

TYPE OF SUPPORTS FOR THE SIDING MATERIAL AND FASTENERS[bcd]

Siding material	Wood or wood structural panel sheathing	Fiberboard sheathing into stud	Gypsum sheathing into stud
Horizontal aluminum[e]			
Without insulation	0.120 nail 1 1/2" long	0.120 nail 2" long	0.120 nail 2" long
	0.120 nail 1 1/2" long	0.120 nail 2" long	0.120 nail 2" long
With insulation	0.120 nail 1 1/2" long	0.120 nail 2 1/2" long	0.120 nail 2 1/2" long
Brick veneer Concrete masonry veneer	See Section R703 and Figure R703.7[h]		
Hardboard[l] Panel siding-vertical	Note n	Note n	Note n
Sliding vertical Hardboard[l] Lap-siding-horizontal	Note p	Note p	Note p
Steel[l]	0.113 nail 1 3/4" Staple 1 3/4"	0.113 nail 2 3/4" Staple 2 1/2"	0.113 nail 2 1/2" Staple 2 1/4"
Stone veneer	See Section R703 and Figure R703.7		

Particleboard panels	6d box nail 6d box nail	6d box nail 8d box nail	6d box nail 8d box nail
Plywood panel[j] (exterior grade)	0.099 nail 2"	0.113 nail 2 1/2"	0.099 nail 2"
Vinyl Siding[n]	0.113 nail 1 1/2" Staple 1 3/4"	0.113 nail 2" Staple 2 1/2"	0.113 nail 2" Staple 2 1/2"
Wood[k] Rustic, drop	Fastener penetration into stud 1"		
Shiplap	Fastener penetration into stud 1"		
Bevel	Fastener penetration into stud 1"		
Butt tip	Fastener penetration into stud 1"		

Siding material	Direct to studs	Number or spacing of fasteners
Horizontal aluminum[e]		
Without insulation	Not allowed	Same as stud spacing
	Not allowed	Same as stud spacing
With insulation	0.120 nail 1 1/2" long	Same as stud spacing
Brick veneer Concrete masonry veneer	See Section R703 and Figure R703.7[h]	
Hardboard[l]	Note n	6" panel edges 12" inter.
Panel siding-vertical		sup.[o]

Sliding vertical Hardboard[i] Lap-siding-horizontal	Note p	Same as stud spacing 2 per bearing
Steel[l]	Not allowed	Same as stud spacing
Stone veneer	See Section R703 and Figure R703.7	
Particleboard panels	6d box nail, 3/8 not allowed 6d box nail	6" panel edges 12" inter. sup.
Plywood panel[j] (exterior grade)	0.099 nail 2"	6" on edges
Vinyl Siding[n]	Not allowed	Same as stud spacing
Wood[k] Rustic, drop	0.113 nail 2 1/2" Staple 2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing
Shiplap	0.113 nail 2 1/2" Staple 2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing
Bevel	0.113 nail 2 1/2" Staple 2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing
Butt tip	0.113 nail 2 1/2" Staple 2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing

a. Based on stud spacing of 16 inches on center where studs are spaced 24 inches, siding shall be applied to sheathing approved for that spacing.

b. Nail is a general description and shall be T-head, modified round head, or round head with smooth or deformed shanks.

c. Staples shall have a minimum crown width of 7/16-inch outside diameter and be manufactured of minimum No. 16 gage wire.

d. Nails or staples shall be aluminum, galvanized, or rust-preventive coated and shall be driven into the studs for fiberboard or gypsum backing.

e. Aluminum nails shall be used to attach aluminum siding.

f. Aluminum (0.019 inch) shall be unbacked only when the maximum panel width is 10 inches and the maximum flat area is 8 inches. The tolerance for aluminum siding shall be +0.002 inch of the nominal dimension.

g. If board or panels are applied over sheathing or a weather-resistant membrane, joints need not be treated. Otherwise, vertical joints shall occur at studs and be covered with battens or be lapped.

h. All attachments shall be coated with a corrosion-resistive coating.

i. Shall be of approved type.

j. Three-eighths inch plywood shall not be applied directly to studs spaced greater than 16 inches on center when long dimension is parallel to studs. One-half-inch plywood shall not be applied directly to studs spaced greater than 24 inches on center. The stud spacing shall not exceed the panel span rating provided by the manufacturer unless the panels are installed with the face grain perpendicular to studs or over sheathing approved for that stud spacing.

k. Woodboard sidings applied vertically shall be nailed to horizontal nailing strips or blocking set 24 inches in center. Nails shall penetrate 1.5 inches into studs and wood sheeting combined or blocking. A weather-resistant membrane shall be installed weatherboard fashion under the vertical siding unless the siding boards are lapped or battens are used.

l. Hardboard siding shall comply with AHA A135.6.

m. Vinyl siding shall comply with ASTM D 3679.

n. Minimum shank diameter of 0.092 inch minimum head diameter of 0.225 inch, and nail length must accommodate sheathing and penetrate framing 1.5 inches.

o. When used to resist shear forces, the spacing must be 4 inches at panel edges and 8 inches on interior supports.

p. Minimum shank diameter of 0.099 inch, minimum head diameter of 0.240 inch, and nail length must accommodate sheathing and penetrate framing 1.5 inches.

q. Vertical end joints shall occur at studs and shall be covered with a joint cover or shall be caulked.

Subp. 3. **Section R703.6.** IRC Section R703.6 is amended to read as follows:

R703.6 Exterior plaster. Installation of these materials shall be in compliance with ASTM C 926 and ASTM C 1063.

R703.6.1 Lath. All lath and lath attachments shall be of corrosion-resistant materials. Expanded metal or woven wire lath shall be attached with 1-1/2 inch long (38 mm), 11 gage nails having a 7/16-inch (11.1 mm) head, or 7/8-inch long (22.2 mm), 16 gage staples, spaced at no more than 6 inches (152 mm) at supports.

R703.6.2 Plaster. Plastering with portland cement plaster shall not be less than three coats when applied over metal lath or wire lath and shall be not less than two coats when applied over masonry, concrete or gypsum backing. If the plaster surface is completely covered by veneer or other facing material or is completely concealed, plaster application need be only two coats, provided the total thickness is as set forth in Table R702.1(1).

On wood-frame construction with an on-grade floor slab system, exterior plaster shall be applied in such a manner as to cover, but not extend below lath, paper, and screed.

The proportion of aggregate to cementitious materials shall be as set forth in Table R702.1(3).

R703.6.3 Weather-resistant barriers. Weather-resistant barriers shall be installed as required in Section R703.2 and, where applied over wood-based sheathing, shall include a weather-resistive vapor permeable barrier with a performance at least equivalent to two layers of Grade D paper.

R703.6.4 Weep screeds. A minimum 0.019-inch (No. 26 galvanized sheet gage), corrosion-resistant weep screed with a minimum vertical attachment flange of 3-1/2 inches shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches above the earth or 2 inches above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

Subp. 4. **Section R703.7.1.** IRC Section R703.7.1 is amended to read as follows:

R703.7.1 Interior veneer support. Masonry veneers to a maximum height of 12 feet 8 inches (38,608 mm) used as interior wall finishes shall be permitted to be supported on wood or cold-formed steel floors that are designed to support the loads imposed.

Subp. 5. **Figure R703.7.1.** IRC Figure R703.7.1, Exterior Masonry Veneer Support by Wood Construction, is deleted in its entirety.

Subp. 6. **Section R703.7.2.** IRC Section R703.7.2 is amended to read as follows:

R703.7.2 Exterior veneer support. Exterior masonry veneers having an installed weight of 40 pounds per square foot (195 kg/m^2) or less shall be permitted to be supported by cold-formed steel wall construction. When masonry veneer supported by cold-formed steel wall construction adjoins masonry veneer supported by the foundation, there shall be a movement joint between the veneer supported by the cold-formed steel wall construction and the veneer supported by the foundation. The cold-formed steel wall construction providing lateral support to the masonry veneer shall be designed to limit the lateral deflection to 1/600 of the span. The design of the cold-formed steel wall construction shall consider the weight of the veneer and any other loads such as wind loads.

Subp. 7. **Section R703.7.2.1.** IRC Section R703.7.2.1, Support by steel angle, is deleted in its entirety.

Subp. 8. **Section R703.7.2.2.** IRC Section R703.7.2.2, Support by roof construction, is deleted in its entirety.

Subp. 9. **Section R703.8.** IRC Section R703.8 is amended to read as follows:

R703.8 Flashing. Approved corrosion-resistive flashing shall be provided in the exterior wall envelope in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish and shall be installed to prevent water from reentering the exterior wall envelope. Approved corrosion-resistant flashing shall be installed at all of the following locations:

1. At top of all exterior window and door openings in such a manner as to be leakproof.
2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.
3. Under and at the ends of masonry, wood, or metal copings and sills.
4. Continuously above all projecting wood trim.
5. Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction.
6. At wall and roof intersections.
7. At built-in gutters.
8. Where exterior material meets in other than a vertical line.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*
History: *27 SR 1475*