

1309.0301 SECTION R301, DESIGN CRITERIA.

Subpart 1. **IRC Section R301.1.4.** IRC Section R301.1 is amended by adding a section to read as follows:

R301.1.4 Automatic sprinkler systems (general). All IRC-2 and IRC-3 buildings shall be provided with an automatic sprinkler system.

Exception:

IRC-2 and IRC-3 buildings less than or equal to 9,250 square feet of floor area. Floor area shall include all floors, basements, and garages.

R301.1.4.1 State licensed facilities. IRC-1, IRC-2, and IRC-3 buildings containing facilities licensed by the state of Minnesota shall be provided with a fire suppression system as required by the applicable licensing provisions or this section, whichever is more restrictive.

R301.1.4.2 Installation requirements. Where an automatic sprinkler system is required in an IRC-2 and IRC-3 building, it shall be installed in accordance with NFPA 13D-2002 edition and the following:

Attached garages are required to have automatic sprinklers with a minimum of one dry head, located within five lineal feet of each door installed in the common wall separating the dwelling unit and the attached garage.

Attached covered patios, covered decks, covered porches, and similar structures are required to have automatic sprinklers with a minimum of one dry head for every 20 lineal feet of common wall between the dwelling unit and the covered patios, covered decks, covered porches, and similar structures.

Exception:

Attached roofs of covered patios, covered decks, covered porches, and similar structures that do not exceed 40 square feet of floor area.

For the purposes of this section, fire-resistance-rated floor, wall, or ceiling assemblies separating dwelling units of IRC-2 and IRC-3 buildings shall not constitute separate buildings.

Subp. 2. **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.², 1 mile per hour = 1.609 km/h

- 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.
- The frost line depth may require deeper footings than indicated in Figure R403.1(1)
- Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- 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. 3. **Figure R301.2(5)**. IRC Figure R301.2(5), Ground Snow Loads, P_g , for the United States (lb/ft^2), is deleted in its entirety.

Subp. 4. **Table R301.5**. IRC Table R301.5 is amended to read as follows:

TABLE R301.5

MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

(in pounds per square foot)

Use	Live Load
Attics with limited storage ^{b,g,h}	20
Attics without storage ^b	10
Decks ^c	40
Exterior balconies	60
Fire escapes	40
Guardrails and handrails ^d	200 ⁱ
Guardrails in-fill components ^f	50 ⁱ
Passenger vehicle garages ^a	50 ^a
Rooms other than sleeping rooms	40

Sleeping rooms	30
Stairs	40 ^c

For SI: 1 pound per square foot = 0.0479 kPa, 1 square inch = 645 mm², 1 pound = 4.45 N.

- a. Elevated garage floors shall be capable of supporting a 2,000-pound load applied over a 20-square-inch area.
- b. Attics without storage are those where the maximum clear height between joist and rafter is less than 42 inches, or where there are not two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide, or greater, located within the plane of the truss. For attics without storage, this live load need not be assumed to act concurrently with any other live load requirements.
- c. Individual stair treads shall be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of four square inches, whichever produces the greater stresses.
- d. A single concentrated load applied in any direction at any point along the top.
- e. See Section R502.2.1 for decks attached to exterior walls.
- f. Guard in-fill components (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to one square foot. This load need not be assumed to act concurrently with any other live load requirement.
- g. For attics with limited storage and constructed with trusses, this live load need be applied only to those portions of the bottom chord where there are two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high or greater by 2 feet wide or greater, located within the plane of the truss. The rectangle shall fit between the top of the bottom chord and the bottom of any other truss member, provided that each of the following criteria is met:
 1. The attic area is accessible by a pull-down stairway or framed opening in accordance with Section R807.1;
 2. The truss has a bottom chord pitch less than 2:12; and
 3. Required insulation depth is less than the bottom chord member depth.

The bottom chords of trusses meeting the above criteria for limited storage shall be designed for the greater of the actual imposed dead load or ten pounds per square foot, uniformly distributed over the entire span.

- h. Attic spaces served by a fixed stair shall be designed to support the minimum live load specified for sleeping rooms.
- i. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4*

Published Electronically: *February 23, 2009*