

(Effective until March 15, 2024)

WAC 51-51-0301 Design criteria.

R301.2 Climatic and geographic design criteria. Buildings shall be constructed in accordance with the provisions of this code as limited by the provisions of this section. Additional criteria shall be established by the local jurisdiction and set forth in Table R301.2(1). The local jurisdiction shall designate the salt water coastal areas within their jurisdiction.

R301.5 Live load. The minimum uniformly distributed live load shall be as provided in Table R301.5.

**TABLE R301.5
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS
(in pounds per square foot)**

Use	Live Load
Uninhabitable attics without storage ^b	10
Uninhabitable attics with limited storage ^{b, g}	20
Habitable attics and attics served with fixed stairs	30
Balconies (exterior) and decks ^c	60 ⁱ
Fire escapes	40
Guards and handrails ^d	200 ^h
Guard in-fill components ^f	50 ^h
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 mm, 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. Uninhabitable attics without storage are those where the clear height between joists and rafters is not more than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. 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 4 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 R507.1 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 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.
- g. Uninhabitable attics with limited storage are those where the clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met:
 - g.1. The attic area is accessed from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches.
 - g.2. The slopes of the joists or truss bottom chords are not greater than 2 inches vertical to 12 units horizontal.

- g.3. Required insulation depth is less than the joist or truss bottom chord member depth. The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.
- h. 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.
- i. Where structural tables in Section R507 only specify snow loads, the values corresponding to 70 psf snow loads shall be used.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-023, § 51-51-0301, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0301, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0301, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0301, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 08-01-102, § 51-51-0301, filed 12/18/07, effective 4/1/08.]

(Effective March 15, 2024)

WAC 51-51-0301 Section R301—Design criteria.

R301.2 Climatic and geographic design criteria. Buildings shall be constructed in accordance with the provisions of this code as limited by the provisions of this section. Additional criteria shall be established by the local jurisdiction and set forth in Table R301.2(1). The local jurisdiction shall designate the salt water coastal areas within their jurisdiction.

R301.2.2.10 Anchorage of water heaters. In Seismic Design Categories D_0 , D_1 and D_2 , and in townhouses in Seismic Design Category C, water heaters and thermal storage units shall be anchored against movement and overturning in accordance with Section M1307.2 or the Uniform Plumbing Code Section 507.2.

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(in pounds per square foot)**

Use	Uniform Load (psf)	Concentrated Load (lb)
Uninhabitable attics without storage ^b	10	-
Uninhabitable attics with limited storage ^{b, g}	20	-
Habitable attics and attics served with fixed stairs	30	-
Balconies (exterior) and decks ^e	60 ^j	-
Fire escapes	40	-
Guards	-	200 ^{h, i}
Guard in-fill components ^f	-	50 ^h
Handrail ^d	200 ^h	-
Passenger vehicle garages ^a	50 ^a	2,000 ^h

Use	Uniform Load (psf)	Concentrated Load (lb)
Areas other than sleeping areas	40	-
Sleeping areas	30	-
Stairs	40 ^c	300 ^c

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

- a. Elevated garage floors shall be capable of supporting the uniformly distributed live load or a 2,000-pound concentrated load applied on an area of 4-1/2 inches by 4-1/2 inches, whichever produces the greater stresses.
- b. Uninhabitable attics without storage are those where the clear height between joists and rafters is not more than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements.
- c. Individual stair treads shall be capable of supporting the uniformly distributed live load or a 300-pound concentrated load applied on an area of 2 inches by 2 inches, whichever produces the greater stresses.
- d. A single concentrated load applied in any direction at any point along the top. For a guard not required to serve as a handrail, the load need not be applied to the top element of the guard in a direction parallel to such element.
- e. See Section R507.1 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 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.
- g. Uninhabitable attics with limited storage are those where the clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met:
 - g.1. The attic area is accessed from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches.
 - g.2. The slopes of the joists or truss bottom chords are not greater than 2 inches vertical to 12 units horizontal.
 - g.3. Required insulation depth is less than the joist or truss bottom chord member depth. The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.
- h. Glazing used in handrail assemblies and guards shall be designed with a load adjustment factor of 4. The load adjustment 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.
- i. Where the top of a guard system is not required to serve as a handrail, the single concentrated load shall be applied at any point along the top, in the vertical downward direction and in the horizontal direction away from the walking surface. Where the top of a guard is also serving as the handrail, a single concentrated load shall be applied in any direction at any point along the top. Concentrated loads shall not be applied concurrently.
- j. Where structural tables in Section R507 only specify snow loads, the values corresponding to 70 psf snow loads shall be used.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058, 23-12-104, and 23-20-024, § 51-51-0301, filed 1/3/23, 6/7/23, and 9/25/23, effective 3/15/24; WSR 20-03-023, § 51-51-0301, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0301, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0301, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0301, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 08-01-102, § 51-51-0301, filed 12/18/07, effective 4/1/08.]

(Effective March 16, 2024)

WAC 51-51-0301 Section R301—Design criteria.

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