

(Effective until March 15, 2024)

WAC 51-11R-40211 Table R402.1.1—Insulation and fenestration requirements by component.

**TABLE R402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

Climate Zone	Fenestration U-Factor ^b	Skylight ^b U-Factor	Ceiling R-Value ^c	Wood Frame Wall ^{g, h} R-Value	Floor R-Value	Below-Grade ^{c, h} Wall R-Value	Slab ^{d, f} R-Value & Depth
5 and Marine 4	0.30	0.50	49	21 int	30	10/15/21int+5TB	10, 2 ft

For SI: 1 foot = 304.8 mm, ci = continuous insulation, int = intermediate framing.

^a R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.

^b The fenestration U-factor column excludes skylights.

^c "10/15/21+5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 on the continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21+5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "TB" means R-5 thermal break between floor slab and basement wall.

^d R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.

^e For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R38 if the full insulation depth extends over the top plate of the exterior wall.

^f R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.

^g For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.

^h Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78 percent of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

[Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160 and chapter 19.27 RCW. WSR 20-01-047, § 51-11R-40211, filed 12/9/19, effective 7/1/20. Statutory Authority: RCW 19.27A.025, 19.27A.045, 19.27A.160, and 19.27.074. WSR 17-10-063, § 51-11R-40211, filed 5/2/17, effective 6/2/17. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160, and 19.27.074. WSR 16-02-127, § 51-11R-40211, filed 1/6/16, effective 7/1/16. Statutory Authority: RCW 19.27A.025, 19.27A.045, and 19.27.074. WSR 13-20-121, § 51-11R-40211, filed 10/1/13, effective 11/1/13. Statutory Authority: RCW 19.27A.020, 19.27A.045 and chapters 19.27 and 34.05 RCW. WSR 13-04-055, § 51-11R-40211, filed 2/1/13, effective 7/1/13.]

(Effective March 15, 2024)

WAC 51-11R-40211 Table R402.1.2—Insulation and fenestration requirements by component.

**TABLE R402.1.2
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

CLIMATE ZONE 5 AND MARINE 4	
Fenestration U-factor ^b	0.30
Skylight U-factor	0.50
Ceiling U-factor	0.024
Above-Grade Wall U-factor	0.056
Floor U-factor	0.029
Slab on Grade F-factor	0.54
Below Grade 2' Depth	
Wall U-factor	0.042

CLIMATE ZONE 5 AND MARINE 4	
Slab <i>F</i> -factor	0.59
Below Grade 3.5' Depth	
Wall <i>U</i> -factor	0.040
Slab <i>F</i> -factor	0.56
Below Grade 7' Depth	
Wall <i>U</i> -factor	0.035
Slab <i>F</i> -factor	0.50

- a *U*-factors or *F*-factors shall be obtained from measurement, calculation, or an approved source or as specified in Section R402.1.5.
- b A maximum *U*-factor of 0.32 shall apply to vertical fenestration products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section R301.2.1.2 of the *International Residential Code*.

[Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160, and chapter 19.27A RCW. WSR 23-02-060, 23-12-102, and 23-20-022, § 51-11R-40211, filed 1/3/23, 6/7/23, and 9/25/23, effective 3/15/24. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160 and chapter 19.27 RCW. WSR 20-01-047, § 51-11R-40211, filed 12/9/19, effective 7/1/20. Statutory Authority: RCW 19.27A.025, 19.27A.045, 19.27A.160, and 19.27.074. WSR 17-10-063, § 51-11R-40211, filed 5/2/17, effective 6/2/17. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160, and 19.27.074. WSR 16-02-127, § 51-11R-40211, filed 1/6/16, effective 7/1/16. Statutory Authority: RCW 19.27A.025, 19.27A.045, and 19.27.074. WSR 13-20-121, § 51-11R-40211, filed 10/1/13, effective 11/1/13. Statutory Authority: RCW 19.27A.020, 19.27A.045 and chapters 19.27 and 34.05 RCW. WSR 13-04-055, § 51-11R-40211, filed 2/1/13, effective 7/1/13.]