

CHAPTER 11 [RE] ENERGY EFFICIENCY

N1102.1.2 (R402.1.2) Insulation and fenestration criteria.

The *building thermal envelope* shall meet the requirements of Table N1102.1.2 based on the *climate zone* specified in Section N1101.7.

**TABLE N1102.1.2
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT U-FACTOR ^b	CEILING R-VALUE	WOOD FRAME R-VALUE	MASS WALL R-VALUE ^g	FLOOR R-VALUE	BASEMENT WALL R-VALUE ^c	SLAB R-VALUE & DEPTH ^d	CRAWL SPACE WALL R-VALUE
4	0.35	0.60	38	15	5/10	19	10 /13	10; 2 feet	10/13
5	0.35	0.60	38	20 or 13 + 5 ^f	13/17	30 ^e	10/13	10; 2 feet	15/19

- a. *R*-values are minimums. *U*-factors are maximums. Batts compressed into a framing cavity such that the *R*-value is reduced by R-1 or more shall be marked with the compressed batt *R*-value in addition to the full thickness *R*-value.
- b. The fenestration *U*-factor column excludes skylights.
- c. The first *R*-value applies to continuous insulation, the second to framing cavity insulation; either insulation meets the requirement.
- d. Minimum of R-5 shall be provided under the full slab area of heated slabs in addition to the required slab edge insulation *R*-value for slab as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.
- e. R-30 or insulation sufficient to fill the framing cavity, R-19 minimum.
- f. "13+5" means R-13 cavity insulation with an additional R-5 insulated sheathing applied to the exterior of the wall. If structural sheathing covers, 25 percent or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- g. The second *R*-value applies when more than half the insulation is on the interior.