



SHAKER HEIGHTS

Energy Efficiency Requirements: Insulation and Fenestration Requirements by Components

If you are constructing a new home, building an addition, remodeling an existing structure or replacing specific components of a 1, 2, 3 family dwelling, the 2013 Residential Code of Ohio (RCO) Chapter 11 Energy Efficiency must be followed. Specific requirements regulating insulation and fenestration components as found in TABLE 1102.1 must be followed. **Shaker Heights is located in climate zone 5.**

Table 1102.1 Insulation & Fenestration Requirements by Component^a

Climate Zone	Fenestration U-factor ^b	Skylight U-factor	Glazed Fenestration SHGC ^b	Ceiling R-value	Wood Frame Wall R-value	Mass Wall R-value ⁱ	Floor R-value	Basement Wall R-value ^c	Slab R-value & Depth ^d	Crawl Space Wall R-value ^c
5	0.35	0.60	NR	38	20 or 13 +5 ^h	13/17	30 ^g	10/13	10, 2 ft	10/13

- a. R-values are minimums. U-factors and solar heat gain coefficient (SHGC) are maximums. R-19 batts compressed in to nominal 2 x 6 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. The SHGC column applies to all glazed fenestration.
- c. 10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- d. R-5 shall be added to the required slab edge R-values for heated slabs.
- g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- h. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Plans submitted for approval must include sufficient information related to these requirements to confirm compliance with the RCO Chapter 11 Energy Efficiency. All labeling of products shall remain in place until inspected and approved for compliance.