



# Building Safety Department

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2/19/2014

## Chapter 4, Residential Energy Efficiency

**401.1 Scope.** This Chapter applies to residential buildings.

**401.2 Compliance.** Projects shall comply with the mandatory provisions **and** either the prescriptive provisions **or** the performance provisions.

### City of Cheyenne Prescriptive Provisions Residential Energy Efficiency Certification Table

	Required	Actual
Window max. U-factor	.35	
Skylight max. U-factor	.60	
Glazed SHGC	NR	
Ceiling R-value (average) <sup>1</sup>	49	
Wood frame wall R-value <sup>1</sup>	20 or 13+5	
Mass wall R-value <sup>2</sup>	15/19	
Floor R-value <sup>3,4</sup>	30/19	
Basement wall R-value <sup>5</sup>	15/19	
Slab R-value & depth	10/4 ft.	
Crawl space wall R-value <sup>6</sup>	10/13	

<sup>1</sup> "13+5" means R-13 cavity insulation plus R-5 insulated sheathing.

<sup>2</sup> The second R-value applies when more than half the insulation is on the interior of the mass wall.

<sup>3</sup> Or insulation sufficient to fill the framing cavity, R-19 minimum.

<sup>4</sup> Floor insulation **may** be deleted when the floor is over a conditioned basement or conditioned crawl space.

<sup>5</sup> "15/19" means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulated sheathing on the interior or exterior of the home.

<sup>6</sup> "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.

**Building thermal envelope.** The building thermal envelope shall be durably sealed to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. The following shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material:

1. All joints, seams and penetrations.
2. Site-built windows, doors and skylights.
3. Openings between window and door assemblies and their respective jambs and framing.
4. Utility penetrations.
5. Dropped ceilings or chases adjacent to the thermal envelope.

6. Knee walls.
7. Walls and ceilings separating a garage from conditioned spaces.
8. Behind tubs and showers on exterior walls.
9. Common walls between dwelling units.
10. Attic access openings.
11. Rim joist junction.
12. Other sources of infiltration.