



# BUILDER'S INSULATION WORKSHEET

Applicant's Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Jobsite Location: \_\_\_\_\_

Circle Method of Calculation (complete documentation required for A – C)

- A. System Analysis (REScheck)
- B. Simulated Performance Alternative
- C. Energy Rating Index Alternative
- D. PA Alternative Residential Energy Provisions  
(See table on back of this form & complete items 1 thru 6)

### Component Criteria for Thermal Envelope (D only)

1. Glazing U-factor for all windows \_\_\_\_\_  
 Glazing U-factor for all skylights \_\_\_\_\_  
 Glazing U-factor for all doors, etc. \_\_\_\_\_  
 (In accordance with NFRC 100, NFRC 200 or U-factor default  
 Tables 102.1.3 (1) & (2) of the International Energy Conservation Code)
2. Ceiling R-Value \_\_\_\_\_
3. Wall R-Value (material installed in wall cavity only) \_\_\_\_\_
4. Basement wall R-Value or \_\_\_\_\_  
 Basement ceiling R-Value \_\_\_\_\_
5. Crawlspace wall R-Value or \_\_\_\_\_  
 Crawlspace ceiling R-Value \_\_\_\_\_
6. For concrete floor slab perimeter R-Value & depth of insulation \_\_\_\_\_

\*Basement and crawlspace must be insulated with either wall or ceiling insulation.

\*Where blown-in or sprayed insulation is applied in the roof/ceiling assembly, the installer shall provide a certification of the initial installed thickness, settled thickness, coverage area, and number of bags of insulating material installed. Markers shall be provided for every 300 square feet of area, attached to the trusses, rafters or joists and indicate in 1-inch high numbers the installed thickness of the insulation.

# SECTION PA300

## BUILDING THERMAL ENVELOPE

**PA301 Insulation and fenestration criteria.** The building thermal envelope shall meet the requirements of Table PA301 based on the climate zone specified in PA201.

**PA301.1 R-value computation.** Insulation material used in layers, such as framing cavity insulation and insulating sheathing, shall be summed to compute the component R-value. The manufacturer's settled R-value shall be used for blown insulation. Computed R-values shall not include an R-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table PA301, the manufacturer's labeled R-value for insulated siding shall be reduced by R-0.6.

**Table PA301**  
*Insulation and Fenestration Requirements by Component<sup>a</sup>*

Climate Zone	Fenestration <sup>b</sup> U-factor	Skylights U-factor	Glazed Fenestration SHGC	Ceiling R-value	Wood Frame Wall R-value	Mass Wall R-value <sup>c</sup>	Floor R-value	Basement <sup>d</sup> Wall R-value	Slab <sup>e</sup> R-value and depth	Crawlspace <sup>d</sup> Wall R-value
South (4)	0.35	0.55	0.4	38	20 <sup>h</sup> or 13+5 <sup>g</sup>	8/13	19	10/13	10, 2 ft	10/13
Central (5)	0.32	0.55	NR	49	20 <sup>h</sup> or 13+5 <sup>g</sup>	13/17	30 <sup>f</sup>	10/13	10, 2 ft	10/13
North (6)	0.32	0.55	NR	49	23, 20+5, 18+6.5, or 13+10	15/20	30 <sup>f</sup>	10/13	10, 4 ft	15/19

**Notes:**

- 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.
- The fenestration U-factor column excludes skylights.
- The second R-value applies when more than half the insulation is on the interior.
- The first R-value applies to continuous insulation on the interior or exterior of the home, the second to framing cavity insulation at the interior of the basement wall; either insulation meets the requirement.
- R-5 shall be added to the required slab edge R-values for heated slabs.
- Or insulation sufficient to fill the framing cavity, R-19 minimum. Floor insulation may also be reduced to R-19 if installed above an unconditioned basement.
- "13 + 5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 40% or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used - to maintain a consistent total sheathing thickness.
- R-18 insulation shall be permitted in place of R-20 requirement provided the wall framing factor is 20% or less or exterior walls with 24" o.c. nominal vertical stud spacing.

**PA302 Specific insulation requirements.**

**PA302.1 Ceilings with attic spaces.** When Section PA301 would require R-38 in the ceiling, R-30 shall be deemed to satisfy the requirement for R-38 wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. Similarly R-38 shall be deemed to satisfy the requirement for R-49 wherever the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves.

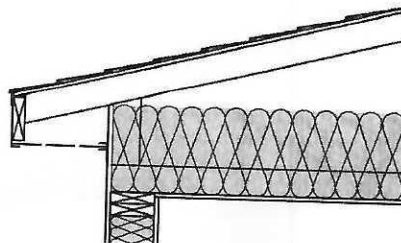


Figure PA302.1  
Ceiling With Full-Height Uncompressed Insulation Above the Top Plate