



Enter the insulation level on the attic floor. For cathedral ceilings enter the insulation level in the *Roof Construction: Insulation Level* field, **NOT** the *Attic floor Insulation* field.

If there are different R-values in multiple attic spaces, perform a UA calculation (you can use the **Home Energy Score Assessor Calculator*** for this) to determine the appropriate R-value to enter:

- $(A_1/R_1 + A_2/R_2)/(A_1+A_2) = U$
- $1/U = R$
- Where: {A is area (ft²), R is the nominal R-value (must be ≥ 1), U is U-value}

De-rate the insulation R-value for installation quality. (see diagrams and table for de-rate factors)

R-Value is a measure of the resistance of insulating material to heat transfer. The higher the R-value number, the more effective the insulation. You can use the inches guidelines to estimate the R-value of the attic floor insulation for fiberglass and similar insulations, or calculate the R-value by identifying the insulation type in the table below and multiplying the number of inches of insulation present by the R-value per inch.

*The **Home Energy Score Assessor Calculator** is available to Assessors and is located on the Partner Portal.

Insulation Tables

| Insulation Type | R-value | | Good | Fair | Poor |
|---------------------------------|---------|-------------------------|----------------------------------|----------------------------------|----------------------------------|
| Loose-Fill | | Measured Batt Thickness | Effective R-value (2.5 per inch) | Effective R-value (1.8 per inch) | Effective R-value (0.7 per inch) |
| Cellulose | 3.4 | 0 | 0 | 0 | 0 |
| Fiberglass | 2.5 | 1 | 3 | 2 | 1 |
| Rockwool | 3.1 | 2 | 5 | 4 | 1.5 |
| Perlite | 2.5 | 3 | 8 | 5 | 2 |
| Vermiculite | 2.2 | 4 | 10 | 7 | 3 |
| Rigid | | 5 | 13 | 9 | 3.5 |
| Polystyrene large curd molded | 4 | 6 | 15 | 11 | 4 |
| Polystyrene small curd extruded | 5 | 7 | 18 | 13 | 5 |
| Polyurethane | 6 | 8 | 20 | 14 | 5.5 |
| Polyisocyanurate | 6 | 9 | 23 | 16 | 6 |

| | | | | | |
|------------------------------------|----|--|----|----|-----|
| Spray Foam-in-place | | 10 | 25 | 18 | 7 |
| Urethane | 6 | 11 | 28 | 20 | 8 |
| | | 12 | 30 | 22 | 8.5 |
| Fiberglass Batt (thickness) | | | | | |
| 3 1/2 in | 13 | *Derived from ASHRAE document "Heat Transmission Coefficients for Walls & Roofs" | | | |
| 6 in | 19 | | | | |
| 10 in | 30 | apply de-rates to batt insulation - see graphics below | | | |
| 12 in | 38 | | | | |

Insulation Installation Quality

Good



Fair



Poor

