

Seal and Insulate with ENERGY STAR®

Guidance for Reflective Insulation Installation Instructions

The purpose of this document is to provide manufactures guidance on creating program compliant reflective insulation installation instructions. EPA wants to assure that instructions provide do-it-yourselfer homeowners and contractors the necessary details to achieve the desired thermal performance and energy savings from the product.

The following are the unique installation challenges associated with reflective insulation products that led EPA to develop the enclosed checklist of required instructional details:

- Reflective insulation requires even and consistent air gaps to achieve the desired thermal resistance properties.
- Reflective insulation must be installed with the reflective side facing the air gap.
- Reflective insulation thermal resistance values are dependent on orientation and heat flow direction.
- Reflective insulation must be installed with air gaps that are fully enclosed.
- Reflective insulation thermal resistance values are greatly reduced by condensation and dust accumulation on the reflective surface.
- Reflective insulation is usually installed as part of an assembly with other insulation products to achieve code compliant thermal resistance values.

Installation instructions and diagrams that do not fully include and meet all the items in the attached Key Requirements Checklist will not be accepted by the EPA-approved certification body, and modifications or corrections will be requested.

QUESTIONS?

For any questions or additional clarification regarding the reflective insulation installation instruction requirements detailed in this document, please send your inquiry to insulation@energystar.gov.

KEY REQUIREMENTS CHECKLIST
For Reflective Insulation Installation Instructions

- At least one diagram must be provided by the manufacturer for each application that is to be recognized.
- Diagrams must only depict the product in the orientation(s) and with the airspace(s) that are to be certified.

Each diagram shall contain the following detailed information:

- Clearly depict the location in the home in which the product is to be installed.
- Fully detail the air gap configuration by clearly depicting the orientation and dimensioning the distance across the air space perpendicular to the foil surface.
- Clearly show which direction the reflective side must face to achieve the desired performance.
- Show details regarding how the cavity is to be sealed at the ends, sides and at overlaps.
- Clearly indicate that any penetrations or openings into or through the enclosed cavity must be sealed to ensure the cavity is unvented.
- All components in the diagram must be labeled.
- All dimensions must be accurate and reflect actual, not nominal, dimensions of all components of the assembly.
- Diagrams shall accurately represent the specific assembly that was tested and/or for which calculations were provided.
- Diagrams are to be to scale and all text and dimensions shall be legible.
- If the use of the product is to be certified for roof applications, the type of roof covering, underlayment and the slope of the roof shall be specified in the diagram. Roof applications that do not meet the minimum slope requirements of the 2009 or 2012 International Residential Code will not be certified or included.
- Showing the product as part of an assembly (with other sheathing, films, and insulation products, etc.) in the diagram is acceptable. However, only the *R*-values of the reflective insulation and airspaces created by the reflective insulation (and as shown in the diagram) will be permitted to be certified. The *combined R*-value of the reflective insulation and air space *and* other materials in the assembly cannot be construed or depicted as the certified *R*-value of the reflective insulation.
- When the reflective insulation is depicted as part of an assembly (i.e. wall assembly, floor assembly, etc.), the assembly *R*-value must be compliant with either the 2009 or 2012 International Energy Conservation Code (IECC) and must indicate which climate zone(s) and code(s) it complies with.