About Polyiso Insulation

Polyiso is a rigid foam insulation used in over 70% of commercial roof construction, in commercial sidewall construction and in residential construction.

The Benefits of using Polyiso include:
- Low environmental impact
- Virtually no global warming potential
- Zero ozone depletion potential
- Cost effective, optimized energy performance
- Long service life
- Recyclable through reuse
- Recycled content (amount varies by product)
- Regional materials (nationwide production network)
- Meets new continuous insulation (ci) standards
- Quality Mark™ certified LTRR-values
- High R-value per inch of thickness
- Thinner walls and roofs with shorter fasteners
- Excellent fire test performance
- Extensive building code approvals
- Preferred insurance ratings
- Compatible with most roof and wall systems
- Moisture resistance
- Dimensional stability
- Compressive strength

PIMA and polyiso products have received many environmental awards. These include an honorable mention in the Sustainable Buildings Industry Council’s (SBIC) - “Best Practice” Sustainability Awards Program and the U.S. EPA’s Climate Protection Award for the association’s leadership in promoting energy efficiency and climate protection. The EPA also awarded PIMA and its members the Stratospheric Ozone Protection Award for “leadership in CFC phase-out in polyiso insulation and in recognition of exceptional contributions to global environmental protection.”

Multi-layering of polyiso roof insulation installed with staggered joints offers a number of advantages, including:
- Reduced thermal loss at insulation joints;
- Less thermal bridging;
- Helps prevent moisture from the inside of the building from condensing on the underside of the roofing membrane; and
- Minimizes potential for membrane splitting in Built Up Roofing (BUR) systems

The benefits of multiple layers of rigid board insulation of all types have been well known for years. Industry authorities, including National Roofing Contractors Association (NRCA), Oak Ridge National Laboratory (ORNL), Canadian Roofing Contractor Association (CRCA) and Roof Consultants Institute (RCI), have recognized these benefits; and contractors, designers and specifiers have followed this long-standing recommendation for the use of multiple insulation layers.

In a double or multiple layer configuration, the layer next to the deck must meet the polyiso roof insulation manufacturer’s minimum thickness requirement for fire performance as designated by FM 4450 / UL 1256 / ULC-S126. The upper layer must meet the FM or UL/ULC applicable wind uplift classification.

Single-Ply Systems

- Insulation Mechanically Fastened Through All Layers: When a coverboard is not used, PIMA strongly recommends the use of multiple layers. It is the responsibility of the designer to ensure that the cumulative R-value of multi-layer insulation corresponds to the R-value of the single layer insulation.
- The minimum thickness of either layer shall meet the requirements of the manufacturer’s FM approvals and UL/ULC classifications.
- Joints of each layer must be offset (minimum 6” or as otherwise approved by the insulation manufacturer) to prevent continuous vertical joints through the full insulation thickness.

Hot-Applied BUR and Modified Bituminous Roof Systems

- Cover boards are generally required in hot-applied BUR and modified bituminous roof systems and therefore create a multi-layered system. Multiple layering of the polyiso can add to the benefits of a multi-layered system in both fully mopped systems and systems that have
the first layer of insulation mechanically fastened with successive layers mopped or adhered.

- Joints of each layer must be offset (minimum 6” or as otherwise approved by the insulation manufacturer) to prevent continuous vertical joints through the full insulation thickness.

**In Summary**

Although polyiso roof insulation manufacturers recognize that single-layer insulation systems continue to be specified and installed, they all agree that a multiple-layer system provides greater thermal efficiency.