

FOIL FACED POLYISO & MINERAL WOOL IN WALL APPLICATIONS

On September 10, 2015, the Polyisocyanurate Insulation Manufacturers Association published the **Performance Bulletin: Foil Faced Polyiso & Mineral Wool Board Applications**. The bulletin compares the performance of foil faced polyiso to mineral wool board in wall applications. Visit **polyiso.org** to download your copy today.

PIMA PERFORMANCE BULLETIN
Foil-Faced Polyiso and Mineral Wool Board in Wall Applications

Foil-faced Polyiso wall insulation, one of the most thermally efficient rigid board insulations, exceeds most functional performance criteria when compared to mineral wool board - also known as mineral fiber board, stone wool and rock wool.

	POLYISO	Mineral Wool Board*
Thermal Performance (R-value)	The R-value per inch of foil-faced Polyiso ranges from 4.0 to 6.6.	The R-value per inch of mineral wool board is 4.0.
Fire Performance	POLYISO BENEFIT: The R-value per inch of foil-faced Polyiso provides over 90% more R-value than mineral wool board, achieving a higher level of resistance in a fire-rated wall. Polyiso wall insulation is approved in thousands of building code-compliant wall assemblies, meeting all necessary safety requirements.	Mineral wool board is approved in hundreds of building code-compliant wall assemblies, meeting all necessary safety requirements.
Resistance to Air	POLYISO BENEFIT: Foil-faced Polyiso meets the safety standards established by the National Fire Protection Agency (NFPA 90B), while providing superior thermal insulation performance. Foil-faced Polyiso is highly resistant to air flow under normal conditions.	Mineral wool board is inherently open and permeable to air (ASTM testing), reducing the effective R-value by nearly 80%.
Resistance to Water Vapor	POLYISO BENEFIT: Thermal performance of a Polyiso wall is more stable than that of mineral wool board in a fire-rated wall. Foil-faced Polyiso is classified as impermeable, or vapor-proof, and has a maximum perm rating of 0.1 perms.	Mineral wool board is classified as permeable, or vapor-resistant, with a perm rating of 25 perms.
Resistance to Water	POLYISO BENEFIT: Foil-faced Polyiso serves as a vapor retarder in walls, reducing the flow of water vapor and associated R-value loss. Foil-faced Polyiso with properly taped joints is classified as a Water-Resistive Barrier.	Mineral wool board can absorb over 20% water by volume after 24-hour immersion and does not recover its insulating value.
	POLYISO BENEFIT: Foil-faced Polyiso with properly taped joints resists the absorption of liquid water as well as associated R-value loss and structural damage.	

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Value:
Foil-faced Polyiso, which has a higher R-value per inch, is lighter and stronger making it easier to install and offering a much greater value than mineral fiber board which has an R-value of 4.0, is heavier, weaker and can be more difficult to handle.

Polyiso:

- Holds the highest R-value per inch of any commonly used rigid foam insulation.
- Provides water resistance as well as superior vapor barrier control.
- Has high compressive strength and resists damage during installation.
- Offers superior performance in fire tests.
- Is lighter and easier to handle on the job site.
- Contains no formaldehyde binders.

*Also known as mineral fiber board, stone wool or rock wool.

Notes:

1. The Effect of Airflow on Measured Heat Transport Through Wall Cavity Insulation, EPD 1405, ASTM International 2007.
2. Value Resistance of Thin Section Foil-Faced Insulation, The Dow Chemical Company, 2010.
3. The Effect of Foil-Facing and Insulation on Thermal Resistance, PIMA Research Report, 2012.

PIMA:
For over 25 years, PIMA (Polyisocyanurate Insulation Manufacturers Association) has served as the unified voice of the rigid polyisocyanurate industry, promoting the safe, cost-effective, sustainable and energy efficient construction. PIMA provides technical support to its efforts to address frequently asked questions about polyiso insulation. PIMA's marketing bulletins are published to help expand the knowledge of specifiers and contractors and to build consensus on the performance characteristics of polyiso. Individual companies should be consulted for specific details about their respective products. PIMA's membership consists of manufacturers and distributors of polyisocyanurate insulation and supplies in the industry. Our members account for a majority of all of the products produced in North America.

Logos: R-MATE, ATLAS, GAF, KLEBER, 3M, Johns Manville, Firestone (KLEBER), PIMA.

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