

POLYTHERM®

POLYISOCYANURATE INSULATION

PRODUCT DESCRIPTION

Polytherm is a highly energy efficient rigid insulation board composed of a closed-cell Polyisocyanurate foam core laminated to a fiber reinforced black non-asphaltic organic facer for superior bonding characteristics. Polytherm is manufactured with a facer ideally suitable for many types of roofing products, including the direct application of ADESO® dual-compound self-adhered membranes under most project circumstances. Available in flat and tapered panels.

USES

Polytherm is ideally suited for use with modified bitumen membrane systems. Polytherm can be installed by mechanical fastening, specialized adhesives and hot asphalt on a variety of substrates and roof decks. Some limitations may apply depending on slope and project conditions.

THERMAL PROPERTIES & PRODUCT DATA

LTTR-VALUE	THICKNESS		RSI**	PCS/PKG	METAL DECK FLUTE SPANABILITY	
	IN	MM			IN	MM
5.7	1.0	25.40	0.99	48	2.625	66.68
8.6	1.5	38.10	1.49	32	4.375	111.13
11.4	2.0	50.80	2.01	24	4.375	111.13
14.4	2.5	63.50	2.53	19	4.375	111.13
17.4	3.0	76.20	3.06	16	4.375	111.13
20.5	3.5	88.90	3.61	14	4.375	111.13
23.6	4.0	101.6	4.16	12	4.375	111.13

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289, Annex A1. All test samples were third-party selected and tested by an accredited material testing laboratory. The LTTR results were reviewed and authorized by FM Approvals and certified by the PIMA Quality Mark Program.

Polyglass recommends multi-layering when desired insulation thicknesses are greater than 2.5 in.

**RSI is the metric expression of R-value ($m^2 \times K/W$).

TECHNICAL DESCRIPTION

TEST METHOD	PROPERTY	TYPICAL RESULTS
ASTM D2126	Dimensional Stability (Length and Width)	< 2 %
ASTM D1621	Compressive Strength (10% Deformation)	20 psi (140 kPa) or 25 psi (172 kPa)
ASTM C209, ASTM D2842	Water Absorption	< 1 %, < 3.5 %
ASTM E96	Moisture Vapor Transmission	< 1.5 perm (85.8ng/(Pa × s × m ²))
ASTM D1622	Product Density	Nominal 2.0 pcf (32.04 kg/m ³)
ASTM E84 (Full 10 min. Test)	Flame Spread	40 – 60*
ASTM E84 (Full 10 min. Test)	Smoke Developed	50 – 170*
ASTM D1623	Tensile Strength	>730 psf (35 kPa)
-	Service Temperature	-100 – 250° F**

*The numerical ratings as determined by ASTM Test Method E84 are not intended to reflect hazards presented by this or any other material under actual fire conditions. A flame spread index of 75 or less and smoke development of 450 or less meet code requirements regarding flame spread and smoke development for foam plastic roof insulation. However, the codes exempt foam plastic insulation when used in roof deck constructions that comply as an assembly with FM 4450 or UL 1256 (see IBC, NBC, UBC, and SBC Sections on Foam Plastic Insulation [Chapter 26]). Smoke development does not apply to roofing.

**ASTM C 1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

The physical properties listed above are presented as typical average values as determined by accepted ASTM test methods and are subject to normal manufacturing variation.



PRODUCT DATA

Available in 4' × 4' or 4' × 8'

- **Flat panels:**
4' × 4' or 4' × 8'
- **Tapered panels:**
4' × 4' with 1/8", 1/4" and 1/2" per foot slope
- **High Density:**
4' × 4' or 4' × 8' with 1/2" thickness

APPLICABLE STANDARDS

- ASTM C1289 Type II, Class 1
- FM Approved
- UL Classified 1256, 263, 790, 1897 (Class A various roof assemblies)
- CAN/ULC-S704 Type 2, Class 3 or Type 3, Class 3
- Miami Dade County Approved
- Florida Building Code



www.polyglass.us

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GENERAL CONDITIONS

Descriptions, specifications, and recommendations described herein are subject to change without notice. Consult with Polyglass for the latest information. The design and construction of the roof deck, and supporting structure are the responsibility of the project architect, engineer, general contractor, and the building owner. The selection and use of Polyglass insulation and other roofing system components to meet the requirements for a project is at the sole discretion of the owner or his designated agent or representative. Polyglass will provide information that is requested by the designer to aid in this decision process. The selection and use of any Polyglass product should be based on the quality of the product and on the specific requirements for the entire roof system rather than any economic considerations. Refer to the information contained in this brochure and to Polyglass specific information on the use and installation of Polyglass roofing insulations.

APPLICATION INSTRUCTIONS

The deck should be firm, clean and dry. The deck should be properly attached as per the design specifications. Proper attachment of insulation is critical to ensure performance of the system design and prevent premature failure. Polyglass cannot be responsible for improper design, use or handling of Polytherm Insulation.

No more insulation shall be installed than can be covered with membrane and completed before the end of each day's work or before the onset of inclement weather. Multi-Layer Installations are strongly recommended when overall thickness is greater than 2.5". Joints of each layer of insulation should be off-set a minimum of 12" in all directions. This installation is critical to limit thermal bridging at edges and increase dimensional stability of the insulation system.

Mechanical Attachment is recommended on all nailable deck types. Fastener type, frequency and spacing will vary for building conditions and deck types. Ensure fastening is compliant for building and construction conditions.

Adhesive Attachment is recommended to non-nailable deck types. Use of hot asphalt, low rise foam and urethane based adhesives should be installed in strict compliance with membrane and adhesive manufacturer's requirements. 4' x 4' board size is required for hot asphalt adhered systems.

HANDLING AND STORAGE

Polyglass insulation is shipped in polyethylene wrapped and strapped bundles, approximately 48" high. These wrapping materials are not adequate for weather protection of the insulation. Stacked bundles shall be covered by a tarpaulin or suitable "breathable" protection cover. DO NOT use wet insulation products within a roofing assembly. Installation of wet insulation or other roofing system components shall cause the Polyglass warranties to become void. Any wet boards shall be removed from the roof and properly disposed of.

WARNING

Polyisocyanurate is an organic material which will burn when exposed to an ignition source of sufficient heat and intensity, and may contribute to flames spreading. Note: Polyglass does not assume any responsibility or liability for the performance of any products other than those manufactured and sold by Polyglass.

MANUFACTURING FACILITIES

- Fernley, NV
- Hazleton, PA
- Waco, TX
- Winter Haven, FL

CORPORATE HEADQUARTERS

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Technical Service: (866) 802-8017

Questions? technical@polyglass.com

Product Disclaimer: Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year.

Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances.

Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data and warranty information, visit www.polyglass.us