THERMAX™ White Finish Insulation

1. PRODUCT NAME

THERMAX™ White Finish Insulation

2. MANUFACTURER

The Dow Chemical Company
Dow Building Solutions
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3. PRODUCT DESCRIPTION

Basic Use

THERMAX™ White Finish (WF) polyisocyanurate insulation is designed as an insulation and interior finish system for interior masonry or concrete walls, plus walls and ceilings in metal, wood post frame, and concrete or masonry buildings, as governed by building codes. The glass-fiber-reinforced polyisocyanurate foam core of THERMAX™ White Finish is faced with nominal 1.25 mil embossed white acrylic coated aluminum on one side and 0.9 mil smooth aluminum on the other. The white embossed surface of THERMAX™ White Finish is aesthetically pleasing and easy to clean. It can be pressure-washed up to 1,000 psi with a 15-degree or greater spray tip (at minimum 3' distance).

THERMAX™ White Finish insulation can be installed exposed to the interior without a thermal barrier.

** R means resistance to heat flow. The higher the R-value, the greater the insulating power.

15-Year Limited Thermal Warranty
THERMAX White Finish insulation is backed with a 15-year limited thermal performance warranty.

Properties

THERMAX™ insulations are created by an exclusive free-rise manufacturing process, which produces a closed-cell foam that is specially formulated for improved fire performance. The combination of the closed-cell foam core and sturdy facers produces boards that deliver high R-value** (see Table 3) plus excellent dimensional stability and moisture resistance. Used in conjunction with the appropriate joint closure system for the application, THERMAX™ White Finish with its low perm rating helps to prevent moisture condensation within and behind the insulation.

All Dow polyisocyanurate insulations are manufactured with hydrocarbon blowing agents, which have no ozone depletion potential.

For features and benefits of THERMAX™ White Finish insulation, refer to Table 1.

THERMAX™ White Finish insulation exhibits the properties indicated in Tables 2 and 3 when tested as represented.

For chemical resistance properties of THERMAX™ White Finish insulation, see Table 4.

TABLE 1: FEATURES AND BENEFITS OF THERMAX™ WHITE FINISH INSULATION

Feature	Benefit
High, long-term R-value	Enhances thermal efficiency, reducing energy cost
Glass-fiber-reinforced closed-cell foam with chemical modifications	Contributes to improved fire performance and enhanced dimensional stability
White acrylic facers	Resist damage, pressure-washable, provide attractive finish, reduce light energy cost, resist air infiltration
Hydrocarbon blowing agent	Environmentally friendly (no ozone depletion potential)

TABLE 2: PHYSICAL PROPERTIES OF THERMAX™ WHITE FINISH INSULATION

Property and Test Method	Value
Compressive Strength[1], ASTM D1621, psi, min.	25.0
Flexural Strength, ASTM C203, psi, min.	40.0
Water Vapor Permeance[2], ASTM E96, perms, max.	0.03
Maximum Use Temperature, °F	250

(1) Vertical compressive strength is measured at 10 percent deformation or yield, whichever occurs first.
(2) Based on 1" thickness.

TABLE 3: THERMAX™ WHITE FINISH R-VALUES

Nominal Foam Thickness, in.	R-Value[1, 2]
0.50	3.3
0.75	5.0
1.0	6.5
1.25	8.0
1.50	9.8
1.55	10.0
1.75	11.4
2.0	13.0

(1) Stabilized R-values of core foam @ 75°F mean temperature determined in accordance with ASTM C518.
(2) R-values expressed in $ft^2 \cdot h \cdot °F/Btu$.

Sizes

Width and length: 4’ x 8’, 4’ x 9’, 4’ x 10’
Edge treatment: Square edge, shiplap

Product thicknesses and R-values are shown in Table 3. Not all products are available in all parts of the country. Additional product sizes are available by custom order. Contact your Dow representative about other sizes and lead-time requirements.

4. TECHNICAL DATA

Code Compliances

THERMAX™ White Finish insulation complies with the following codes:

- International Residential Code (IRC) and International Building Code (IBC); see ICC-ES Evaluation Report NER-681
- FM 4880 – Wall-Ceiling Construction Metal-Faced – Class 1 Fire Rated to Max. 30’ High, 4.25” Thick, 4’ Wide, When Installed as Described in the Current Edition of FMRC Approval Guide
- THERMAX™ products are classified by Underwriters Laboratories Inc. (UL)
- UL 1256 – Fire Test of Roof Deck Constructions, Roof Deck Construction No. 120 and No. 123
- UL 723 (ASTM E84) Surface Burning Characteristics of Building Materials
- The following designs are 1, 2, 3 or 4 hour wall rated assemblies as listed in the UL Fire Resistance Directory: U026, U324, U325, U326, U330, U354, U355, U460, U902, U905, U906, U907
- Fire Performance Evaluation Incorporating THERMAX Insulation Tested in Accordance With NFPA 285, 1998 Edition (UBC 26.9, intermediate scale – multistory testing)
- Miami-Dade NOA 02-0703.02 Interior Insulation on CMU Block
- Miami-Dade NOA 02-0703.03 Insulated Wall
- Miami Dade NOA 02-0703.05 Insulated Roof Assembly

ASTM E283 Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under specified Pressure differences across the specimen. Results were <0.02 L/s/m2

- ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies - no leakage
- ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference - no leakage

Contact your Dow sales representative or local authorities for state and local building code requirements and related acceptances.

5. INSTALLATION

Boards of THERMAX™ White Finish are lightweight and can be sawed or cut with a knife, small hand saw or circular saw. Care should be taken not to mar the surface. THERMAX™ White Finish installs quickly to walls and ceilings – inside and outside of purlins, trusses or bar joints. Butt joints must be installed over structural members. THERMAX™ White Finish may also be adhered directly to masonry walls with a construction-grade adhesive. “Best practice” recommendations for high-humidity environments include continuously sealing the surface of the insulation at all joints with a Dow joint closure system.

TABLE 4: CHEMICAL RESISTANCE OF THERMAX™ WHITE FINISH INSULATION

Acid, inorganic	Not recommended	Hydrocarbons	Excellent
Acid, organic	Excellent	Insecticides	Excellent
Alcohol	Excellent	Kerosene	Excellent
Asphalt, water-based	Good	Mineral oil USP	Excellent
Bases (caustic)	Poor	Naphtha	Excellent
Brines and other salts	Excellent	Paints, alcohol-based	Excellent
Cements and mortar	Poor	Paints, water-based	Excellent
Gases, carbon dioxide (CO_2)	Excellent	Polyglycols, including propylene glycol	Excellent
Gasoline	Excellent	Water(1)	Excellent

(1) Water may cause discoloration of aluminum facers. This does not impact the R-value of dry, core insulation.
NOTE: This table should be used as a guide only. For design purposes, specific test data on the intended application may be needed.

In the U.S.
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