THERMAX™ Sheathing

1. PRODUCT NAME

THERMAX™ Sheathing

2. MANUFACTURER

The Dow Chemical Company
Dow Building Solutions
200 Larkin
Midland, MI 48674
1-866-583-BLUE (2583)
Fax 1-989-832-1465
www.dowbuildingsolutions.com

3. PRODUCT DESCRIPTION

THERMAX™ Sheathing is a non-structural, rigid board insulation consisting of a glass-fiber-infused polyisocyanurate foam core laminated between 1.0 mil smooth, reflective aluminum facers on both sides. The glass-fiber reinforcement contributes to improved fire performance and dimensional stability. THERMAX™ Sheathing can be installed exposed to the interior without a thermal barrier.

THERMAX™ Sheathing offers high, long-term R-value. Used in conjunction with the appropriate joint closure system for the application, THERMAX™ Sheathing with its low perm rating helps to reduce moisture condensation within and behind the insulation.

BASIC USE

THERMAX™ Sheathing is specially designed to have a Class A fire rating and can be used in a range of concealed and exposed applications, above and below grade, and can be used in exterior walls. Because of its improved fire performance, THERMAX™ Sheathing is especially appropriate for hourly rated assemblies. THERMAX™ Sheathing is approved for use, per Section 2603.5 of the International Building Code, in Exterior Walls of Types I,II,III and IV construction. THERMAX™ Sheathing is designed for use as continuous insulation in both interior and exterior applications to assist in meeting and exceeding both the most current IECC and the ASHRAE 90.1 energy standards. Maximum length is 30 ft. (9.1 m) and maximum thickness is 4.25" (108 mm).

4. TECHNICAL DATA

APPLICABLE STANDARDS

THERMAX™ Sheathing meets ASTM C1289 – Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board, Type I, Class 2. Applicable standards include:

- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- C209 – Standard Test Methods for Cellulosic Fiber Insulating Board
- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- E96 – Standard Test Method for Water Vapor Transmission of Materials
- D1623 – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics

TYPICAL PHYSICAL PROPERTIES

THERMAX™ Sheathing exhibits the typical physical properties and characteristics indicated in Table 2 when tested as represented.

ENVIRONMENTAL DATA

THERMAX™ Sheathing is manufactured with a zero ozone depleting potential. The use of THERMAX™ Sheathing helps reduce the carbon footprint of commercial buildings.

FIRE INFORMATION

THERMAX™ Sheathing products should be used only in strict accordance with product application instructions. THERMAX™ products are combustible and when used in a building containing combustible materials, may contribute to the spread of fire. For more information, consult MSDS and/or call Dow at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400.

CODE COMPLIANCES

THERMAX™ Sheathing complies with the following codes:

- ASTM E2178 Standard Test Method for Air Permeance of Building Materials - leakage rates less than 0.001 L/s/m² at a test pressure of 75 Pa.
- 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
- 2009 International Residential Code (IRC) Section 316
- 2009 International Building Code (IBC) Section 2603
- ICC-ES ESR-1659
- FM 4880 – Wall-Ceiling Construction Metal-Faced – Class 1 Fire Rated to Max. 30' Exposure High, 4.25" Thick, 4' Wide, When Installed as Described in the Current Edition of FMRC Approval Guide
- FM 4450 Approval Standard for Class 1 Insulated - Steel Deck Roofs
- THERMAX™ products are covered under Underwriters Laboratories Inc. (UL) File R5622

- 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, U326, U330, U354, U355, U424, U425, U460, U902, U904, U905, U906, U907, V454, V482, V499
- Fire Performance Evaluation of an Exterior Masonry Wall System Incorporating THERMAX™ Insulation Tested in Accordance With NFPA 285, 2006 Edition (UBC 26.9, intermediate scale – multistory testing)
- FMVSS No. 302 – Flammability of Interior Materials – Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses (Docket No. 3-3; Notice 4)
- Miami-Dade NOA 08-0320.01 Interior Insulation on CMU Block

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

5. INSTALLATION

Boards of THERMAX™ Sheathing are lightweight and can be sawed or cut with a knife. They install quickly to walls (girts, steel stud, tilt-up, block, wood) and ceilings – inside and outside of purlins, trusses or bar joints. Butt joints must be installed over structural members. "Best practice" recommendations for high-humidity environments include continuously sealing the surface of the insulation at all joints with a Dow joint closure system.

Contact a local Dow representative or access the literature library at www.dowbuildingsolutions.com for more specific instructions.

6. AVAILABILITY

THERMAX™ Sheathing is manufactured in several locations and is distributed through an extensive network. For more information, call 1-800-232-2436.

7. WARRANTY

Fifteen-year limited warranty is available. Contact your Dow representative for details.

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using THERMAX™ Sheathing. Technical personnel are available to assist with any insulation project. For technical assistance, call 1-866-586-BLUE (2583).

10. FILING SYSTEMS

- www.dowbuildingsolutions.com
- www.DowMetalBuilding.com

TABLE 1: SIZES, R-VALUES AND EDGE TREATMENTS FOR THERMAX™ SHEATHING

Nominal Board Thickness(1), in.	R-value (2)(3)	Board Size, ft	Edge Treatment
0.5	3.3	4 × 8, 4 × 9, 4 × 10	Square Edge
0.75	5	4 × 8, 4 × 9, 4 × 10	Square Edge
1	6.5	4 × 8, 4 × 9, 4 × 10	Square Edge
1.5	9.8	4 × 8, 4 × 9, 4 × 10	Square Edge, Shiplap
2	13	4 × 8, 4 × 9, 4 × 10	Square Edge, Shiplap

(1) Contact your Dow seller for information at different R-values and other sizes and lead time requirements. Not all product sizes are available in all regions.
(2) R means resistance to heat flow. The higher the R-value, the greater the insulating power. Stabilized R-values @ 75°F mean temperature determined in accordance with ASTM C518. R-values expressed in $ft^2 \cdot h \cdot °F/Btu$.
(3) An additional 2.77 R-value may be added to the system R-value, when a minimum 3/4" ideal air space and horizontal heat flow are present in accordance with the ASHRAE Fundamentals Handbook on FTC, 16 CFR Part 460.

TABLE 2: TYPICAL PHYSICAL PROPERTIES OF THERMAX™ SHEATHING

Property and Test Method	Value
Compressive Strength (1), ASTM D1621, psi, min.	25
Flexural Strength, ASTM C203, psi, min.	40
Water Absorption, ASTM C209, % by volume, max.	0.1
Water Vapor Permeance, ASTM E96, perm, max.	≤0.04
Maximum Use Temperature, °F	250

(1) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

In the U.S.
The Dow Chemical Company
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Sales Information
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