



# THERMAX™ Sheathing

## 1. PRODUCT NAME

THERMAX™ Sheathing

## 2. MANUFACTURER

The Dow Chemical Company  
 Dow Building Solutions  
 200 Larkin Center, 1605 Joseph Drive  
 Midland, MI 48674  
 1-866-583-BLUE (2583)  
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## 3. PRODUCT DESCRIPTION

### Basic Use

THERMAX™ Sheathing polyisocyanurate insulation is a non-structural, rigid board insulation consisting of a glass-fiber-reinforced polyisocyanurate foam core laminated between aluminum foil facers.

Install THERMAX™ Sheathing in a range of applications including new frame wall construction behind masonry, siding, exterior stucco or other compatible finishes. THERMAX™ Sheathing may be installed exposed to the interior without a thermal barrier in many applications.

Because of its improved fire performance, THERMAX™ Sheathing is especially appropriate for hourly rated assemblies. Please check with your local Dow seller.

### 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 aluminum facers produces boards that deliver high R-value\*\* (see Table 3) plus excellent dimensional stability and moisture resistance. Used with the appropriate joint closure system for the application, THERMAX™ Sheathing 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™ Sheathing, refer to Table 1.

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

For chemical resistance properties of THERMAX™ Sheathing, see Table 4.

**TABLE 1: FEATURES AND BENEFITS OF THERMAX™ SHEATHING**

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
Aluminum facers	Allow product to be detailed as a weather-resistive barrier; prevent air penetration and water vapor intrusion
Hydrocarbon blowing agent	Environmentally friendly (no ozone depletion potential)

**TABLE 2: PHYSICAL PROPERTIES OF THERMAX™ SHEATHING**

Property and Test Method	Value
Compressive Strength <sup>(1)</sup> , ASTM D1621, psi, min.	25.0
Flexural Strength, ASTM C203, psi, min.	40.0
Water Absorption, ASTM C209, % by volume, max.	1.0
Water Vapor Permeance <sup>(2)</sup> , ASTM E96, perms, max.	0.03
Nominal Density, ASTM D1622, pcf	2.0
Dimensional Stability <sup>(2)</sup> , ASTM D2126 (length or width), % change	200°F: 1.5 max. 158°F at 97% RH: 1.5 max.
Operation Temperature Range, °F	-100 to +250

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

**TABLE 3: THERMAX™ SHEATHING R-VALUES**

Nominal Board Thickness, in.	R-Value <sup>(1, 2)</sup>
0.5	3.3
0.75	5.0
1.0	6.5
1.25	8.0
1.5	9.8
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<sup>2</sup> •h•°F/Btu.

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

### 15-Year Limited Thermal Warranty

THERMAX™ Sheathing is backed with a 15-year limited thermal performance warranty.

## Sizes

Width and length: 4' x 8', 4' x 9', 4' x 10'

Edge treatment: Square edge

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™ Sheathing complies with the following codes and standards:

- International Residential Code (IRC) and International Building Code (IBC); see ICC-ES Evaluation Report NER-681

- CCMC – Canadian Construction Materials Centre Evaluation Listing No. 08433-L
- FHA – Federal Housing Administration Minimum Property Standards
- Federal Specification HH-I-1972/1, Class 2
- ASTM C1289, Type I, Class 2
- THERMAX™ products are classified by Underwriters Laboratories Inc. (UL)
- Factory Mutual approved as “Wall-Ceiling Construction, FM Approvals Standard FM 4880, Metal-Faced – Class 1 Fire Rated to Max. 30' High”

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 and easily to walls and ceilings using commonly accepted building practices. “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™ SHEATHING**

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 <sub>2</sub> )	Excellent	Polyglycols, including propylene glycol	Excellent
Gasoline	Excellent	Water <sup>(1)</sup>	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.

#### The Dow Chemical Company

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### Technical Information

1-866-583-BLUE (2583)

### Sales Information

1-800-232-2436

[www.insulateyourhome.com](http://www.insulateyourhome.com)

NOTICE: Changes to the International Residential Code require the installation of a weather-resistive barrier (WRB) within most exterior wall assemblies in residential construction. The following Dow insulated sheathing products qualify as a WRB when installed according to the installation instructions developed for “installation of foam sheathing as a weather-resistive barrier”: STYROFOAM™ DURAMATE™ Plus, STYROFOAM Residential Sheathing, STYROFOAM Tongue and Groove, STYROFOAM Square Edge, STYROFOAM Residing Board, THERMAX™ Sheathing, TUFF-R™ and Super TUFF-R and therefore do not require the use of a building paper or a housewrap as a WRB. When a WRB is not needed, these Dow foam sheathings may be installed according to standard installation instructions for foam sheathing from Dow. Be sure products and installation instructions meet code requirements for your particular location. Note: STYROFOAM WEATHERMATE™ and STYROFOAM WEATHERMATE Plus housewraps have already qualified as weather-resistive alternatives to the prescribed felt (see Evaluation Reports NER-593 and NER-640 for approved alternative).

NOTICE: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. Dow assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

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

WARNING: THERMAX™ insulation does not constitute a working walkable surface or qualify as a fall protection product.

Building and/or construction practices unrelated to insulation or housewrap could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.