



# THERMAX Heavy Duty Insulation

THERMAX\* Heavy Duty polyisocyanurate insulation is designed as an insulation and interior finish system for walls and ceilings in metal, wood post frame, and concrete or masonry buildings, as governed by building codes. The tough 4 mil white embossed aluminum surface of THERMAX Heavy Duty makes a durable insulation/finish choice for use in moderate-impact areas. It can be pressure-washed up to 2,000 psi with a 15-degree or greater spray tip (at minimum 3' distance).

THERMAX Heavy Duty insulation can be installed exposed to the interior without a thermal barrier.

## PROPERTIES

THERMAX insulations are created by an exclusive free-rise manufacturing process, which produces a closed-cell foam that is specially formulated for superior 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 Heavy Duty with its low perm rating helps to prevent moisture condensation within and behind the insulation.

### 15-YEAR LIMITED THERMAL WARRANTY

THERMAX Heavy Duty insulation is backed with a 15-year limited thermal performance warranty.

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

For features and benefits of THERMAX Heavy Duty insulation, refer to Table 1.

THERMAX Heavy Duty insulation exhibits the properties indicated in Tables 2 and 3 when tested as represented.

For chemical resistance properties of THERMAX Heavy Duty insulation, see Table 4.

## 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.

TABLE 1

Features and Benefits of THERMAX Heavy Duty 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, allow product to be detailed as a weather-resistive barrier
Hydrocarbon blowing agent	Environmentally friendly (no ozone depletion potential)

TABLE 2

Physical Properties of THERMAX Heavy Duty Insulation	
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.	0.03
Water Vapor Permeance <sup>(2)</sup> , ASTM E96, perms, max.	<0.03
Maximum Use Temperature, °F	250
Light Reflectance, Visual Light Spectrophotometer, %	65

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

TABLE 3

Nominal Foam Thickness, in.	R-Value <sup>(1)</sup>
1.0	6.5
1.50	9.8
2.0	13.0

(1) R-value determined by ASTM C518.

\*Trademark of The Dow Chemical Company

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

THERMAX Heavy Duty Insulation

TABLE 4

Chemical Resistance of THERMAX Heavy Duty 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 <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.

**INSTALLATION**

Boards of THERMAX Heavy Duty are lightweight and can be sawed or cut with a knife. They install quickly to walls and ceilings – inside and outside of purlins, trusses or bar joints. Butt joints must be installed over structural members. The surface of insulation at all joints must be continuously sealed with tape or with a Dow joint closure system.

**CODE COMPLIANCES**

THERMAX Heavy Duty insulation complies with the following codes:

- International Residential Code 2003 (IRC) Section 314
- International Building Code (IBC) Section 2603
- National Evaluation Services (NES) NER-681

BOCA – Section 2603.0 and Research Report #98-25 (replaced)

ICBO – Section 2602 and Evaluation Report #3223 (replaced)

SBCCI – Section 2603 and Evaluation Report 9574C (replaced)

- 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 covered under Underwriters Laboratories Inc. (UL) files R5622, R8181 and R2637
- 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 of an Exterior Masonry Wall System Incorporating THERMAX Insulation Tested in Accordance With NFPA 285, 1998 Edition (UBC 26.9, intermediate scale – multi-story 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 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

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

**IN THE U.S.:**

- For Technical Information: **1-866-583-BLUE (2583)**
- For Sales Information: **1-800-232-2436**

**THE DOW CHEMICAL COMPANY**

• Building & Construction • 200 Larkin • Midland, MI 48674 • [www.insulateyourhome.com](http://www.insulateyourhome.com)

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.

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, 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).

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 MSDS 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.



Living.  
Improved daily.