



# THERMAX™ HEAVY DUTY INSULATION

## 1. PRODUCT NAME

THERMAX™ Heavy Duty Insulation

## 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](http://www.dowbuildingsolutions.com)

## 3. PRODUCT DESCRIPTION

THERMAX™ Heavy Duty Insulation consists of a glass-fiber-reinforced polyisocyanurate foam core faced with nominal 4 mil embossed white thermoset-coated aluminum on one side and 1.25 mil embossed aluminum on the other. It can be installed exposed to the interior without a thermal barrier.

THERMAX™ Heavy Duty offers high, long-term R-value\*. The facers help prevent water and water vapor intrusion into the insulation foam, and allow the foam to stabilize at a higher R-value. Used in conjunction with the appropriate joint closure system for the application, THERMAX™ Heavy Duty Insulation with its low perm rating helps to reduce moisture condensation within and behind the insulation.

## BASIC USE

THERMAX™ Heavy Duty 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 it a durable insulation/finish choice for use in moderate-impact areas, and it can be pressure-washed up to 2,000 psi with a 15-degree or greater spray tip (at 3' minimum distance). Maximum length is 30 ft. (9.1 m) and a maximum thickness of 3 inches (76.2 mm).

## 4. TECHNICAL DATA

### APPLICABLE STANDARDS

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

## ENVIRONMENTAL DATA

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

## FIRE INFORMATION

THERMAX™ 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™ Heavy Duty complies with the following codes:

- 2009 International Residential Code (IRC) Section 316
- 2009 International Building Code (IBC) Section 2603
- ICC-ES ESR-1659

**TABLE 1: SIZES, R-VALUES AND EDGE TREATMENTS FOR THERMAX™ HEAVY DUTY INSULATION**

NOMINAL BOARD THICKNESS <sup>(1)</sup> , IN.	R-VALUE <sup>(2)</sup>	BOARD SIZE, FT	EDGE TREATMENT
.5	3.3	4 x 8, 4 x 10	Square Edge
.75	5.0	4 x 8, 4 x 10	Square Edge
1.0	6.5	4 x 8, 4 x 10	Square Edge
1.5	9.8	4 x 8, 4 x 10	Square Edge, Shiplap
2	13.0	4 x 8, 4 x 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-value means resistance to heat flow. The higher the R-value the greater the insulating power. Stabilized R-value @75°F mean temperature determined in accordance with ASTM C518, R-values expressed in ft<sup>2</sup>•h•°F/Btu.

- 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
- 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)

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

**5. 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 the insulation at all joints must be continuously sealed with tape or with one of Dow’s joint closure systems.

Contact a local Dow representative or access the literature library at [www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com) for more specific instructions.

**6. AVAILABILITY**

THERMAX™ Heavy Duty insulation 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 thermal 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™ Heavy Duty. Technical personnel are available to assist with any insulation project. Call 1-866-583-BLUE (2583).

**10. FILING SYSTEMS**

- [www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com)
- [www.DowMetalBuilding.com](http://www.DowMetalBuilding.com)

**TABLE 2: TYPICAL PHYSICAL PROPERTIES OF THERMAX™ HEAVY DUTY INSULATION**

PROPERTY AND TEST METHOD	VALUE
Compressive Strength <sup>(1)</sup> , ASTM D1621, psi, min.	25
Flexural Strength, ASTM C203, psi, min.	55
Water Absorption, ASTM C209, % by volume, max.	0.1
Water Vapor Permeance, ASTM E96, perm, 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 at yield, whichever occurs first.

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

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

**IN THE U.S.**  
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CAUTION: This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

**WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.**

Building and/or construction practices unrelated to building materials 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.

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