



THERMAX™ (ci) EXTERIOR INSULATION

1. PRODUCT NAME

THERMAX™ (ci) Exterior 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.thermaxwallssystem.com

3. PRODUCT DESCRIPTION

THERMAX™ (ci) Exterior Insulation consists of a glass-fiber-reinforced polyisocyanurate foam core faced with nominal 4 mil embossed BLUE™ acrylic-coated aluminum on one side and 1.25 mil embossed aluminum on the other.

With more than 30 years of proven performance, THERMAX™ (ci) Exterior Insulation features a distinct free-rise technology for better product consistency, durability and fire performance than generic polyisocyanurate insulations. An integral, durable acrylic-coated aluminum facer provides a drainage plane and water-resistive barrier, eliminating the extra step of installing a membrane or building wrap. And the foam core provides one of the highest R-values* available (R-6.5 at 1") for immediate insulation and weather protection on the job site, as well as long-term thermal performance. THERMAX™ (ci) Exterior Insulation can remain uncovered up to six months.

With its low perm rating and high insulating value, THERMAX™ (ci) Exterior Insulation reduces the potential for condensation within the wall assembly.

BASIC USE

THERMAX™ (ci) Exterior Insulation is the core component of the THERMAX™ Wall System, which meets ASHRAE 90.1-2007 prescriptive requirements for continuous insulation on exterior walls, as governed by building codes. The tough 4 mil BLUE™ embossed aluminum surface makes it a durable exterior insulation choice.

SIZES

See Table 1 for sizes, R-values and edge treatment options.

4. TECHNICAL DATA

APPLICABLE STANDARDS

THERMAX™ (ci) Exterior Insulation 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 Methods for Water Vapor Transmission of Materials
- D1623 – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics

TABLE 1: SIZES, R-VALUES AND EDGE TREATMENTS FOR THERMAX™ (ci) EXTERIOR INSULATION

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN.	R-VALUE ⁽²⁾	BOARD SIZE, FT	EDGE TREATMENT
.625	4.1	4 x 8/4 x 12	Square Edge
1.0	6.5	4 x 8/4 x 12	Square Edge
1.55	10.1	4 x 8/4 x 12	Shiplap
2.0	13.0	4 x 8/4 x 12	Shiplap
2.5	15.8	4 x 8/4 x 12	Shiplap
3.0	19	4 x 8/4 x 12	Shiplap

(1) Not all product sizes are available in all regions.

(2) Aged R-value at 1" of cured foam @ 75°F mean temperature. R-value expressed in ft²•h•°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).

TABLE 2: PHYSICAL PROPERTIES OF THERMAX™ (ci) EXTERIOR INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance ⁽¹⁾ , ASTM C518, R-value	6.5
Compressive Strength ⁽²⁾ , ASTM D1621, psi	25.0
Flexural Strength, ASTM C203, psi	55.0
Water Absorption, ASTM C209, % by volume	<0.05
Water Vapor Permeance, ASTM E96, perms	<0.03
Maximum Use Temperature, °F	250
Surface Burning Characteristics ⁽³⁾ , ASTM E84	
Flame Spread	25
Smoke Developed	<450

(1) Aged R-value at 1" of cured foam @ 75°F mean temperature. R-value expressed in ft²•h•°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).

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

(3) Calculated flammability values for this or any other material are not intended to represent hazards that may be present under actual fire conditions.

PHYSICAL PROPERTIES

THERMAX™ (ci) Exterior Insulation exhibits the properties and characteristics indicated in Table 2 when tested as represented.

FIRE PROTECTION

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.

CODE COMPLIANCES

THERMAX™ (ci) Exterior Insulation complies with the following codes:

- International Building Code (IBC) Section 2603
 - UL Classified; Class A UL 723 (ASTM E84) Surface Burning Characteristics of Building Materials
 - Fire Performance Evaluation approval per NFPA 285, 2006 Edition (UBC 26.9, intermediate scale – multistory testing)
- ICC-ES ESR-681 – THERMAX™ Boards (THERMAX™ (ci) Exterior Insulation will be included in the next ICC-ES ESR update for THERMAX™ boards)
- FM DS 1-12 – Ceilings and Concealed Spaces, compliant as an FM approved Class 1 Foil-faced Polyisocyanurate Insulation in Cavity Walls

- FM 4880 – Factory Mutual Class 1 Insulated Wall and Ceiling Panel
- THERMAX™ products are covered under Underwriters Laboratories Inc. (UL) file R5622
- 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, U460, U902, U904, U905, U906, U907, V454, V482
- ASTM E2357 and E331 when THERMAX™ (ci) Exterior Insulation is used as part of the THERMAX™ Wall System

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

5. INSTALLATION

Boards of THERMAX™ (ci) Exterior Insulation are lightweight and can be sawed or cut with a knife. They install quickly and easily to walls with common building tools. Vertical joints should be staggered and butt joints must be installed over structural members.

For optimum performance and to create a water-resistive barrier, seal all joints between boards with WEATHERMATE™ Flashing.

6. AVAILABILITY

THERMAX™ (ci) Exterior Insulation is distributed through an extensive network. For more information, call 1-800-232-2436.

7. WARRANTY

Fifteen-year limited thermal warranty as described in Form No. 179-04493. See www.thermaxwallssystem.com for more details.

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using THERMAX™ (ci) Exterior Insulation. For technical assistance, call 1-866-583-BLUE (2583).

10. FILING SYSTEMS

www.thermaxwallssystem.com
www.dowbuildingsolutions.com
www.sweets.com

www.thermaxwallssystem.com

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

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Dow Polyisocyanurate Insulation

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.

