



THERMAX XARMOR™ (ci) Exterior Insulation

1. PRODUCT NAME

THERMAX XARMOR™ (ci) Exterior Insulation

2. MANUFACTURER

The Dow Chemical Company
Dow Building Solutions
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1-866-583-BLUE (2583)
Fax 1-989-832-1465

www.thermaxwallssystem.com

3. PRODUCT DESCRIPTION

THERMAX XARMOR™ (ci) Exterior Insulation is the toughest insulation for the patented THERMAX™ Wall System. Boasting a strong 4.0 mil embossed exterior foil facer, this solution provides builders with more durability for long-term performance. THERMAX XARMOR™ (ci) is also the only THERMAX™ insulation with a dark exterior facer optimized to go behind rain screen exteriors. It is engineered with unique fiberglass reinforced core for enhanced fire performance and a stronger, straighter board. When used as part of the THERMAX™ Wall System, the integral, durable thermoset-coated aluminum facer provides a drainage plane, water-resistive barrier and exterior sheathing; eliminating the extra steps of installing a membrane, building wrap and exterior gypsum. The foam core provides one of the highest R-values⁽²⁾ available (R-6.5 at 1") for immediate insulation and weather protection on the job site, as well as long-term thermal performance and water resistance. As a UV stable material, THERMAX XARMOR™ (ci) Exterior Insulation can remain uncovered up to six months. With its low perm rating and high insulating value, THERMAX XARMOR™ (ci)

Exterior Insulation reduces the potential for condensation within the wall assembly resulting in long lasting performance.

With more than 30 years of proven performance, THERMAX™ products feature a distinct free-rise technology for better product consistency, durability and fire performance than generic polyisocyanurate insulations.

Basic Use

THERMAX XARMOR™ (ci) Exterior Insulation is the core component of the THERMAX™ Wall System, which easily meets or exceeds ASHRAE 90.1-2013 prescriptive requirements for continuous insulation on exterior walls, as governed by building codes.

Sizes

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

4. TECHNICAL DATA

Applicable Standards

THERMAX XARMOR™ (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

Physical Properties

Exterior Insulation exhibits the properties and characteristics indicated in Table 2 when tested as represented.

TABLE 1: Sizes⁽¹⁾, R-Values And Edge Treatments For THERMAX XARMOR™ (ci) Exterior Insulation

Nominal Board Thickness (in.)	R-Value	Board Size (ft.)	Edge Treatment
0.625	4.1	4 × 8/4 × 12	Square Edge
1.0	6.5	4 × 8/4 × 12	Square Edge
1.55	10.1	4 × 8/4 × 12	Shiplap
2.0	13.0	4 × 8/4 × 12	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⁾ Aged R-value at 1" of cured foam @ 75°F mean temperature. R-value expressed in ft 2 •h•°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).

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 (Material) Safety Data Sheet ((M)SDS) and/or call Dow at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400.

Code Compliances

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

- 2012 International Building Code (IBC) Section 2603
 - UL Classified; Class A UL 723 (ASTM E84) Surface Burning Characteristics of Building Materials
 - Fire Performance Evaluation approvals per NFPA 285, 2006 Edition (UBC 26.9, intermediate scale – multistory testing)
- ICC-ES ESR-1659
- 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, U424, U425, U460, U902, U904, U905, U906, U907, V454, V482, V499, W417

TABLE 2: Physical Properties of THERMAX XARMOR™ (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, max.	0.1
Water Vapor Permeance, ASTM E96, perms	≤0.04
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.

- The following designs are 1, 2, 3 or 4 hour wall rated assemblies as listed in the Intertek Fire Rating Listing: FI 60-02, FI 60-01, FI 120-01
- Meets air barrier requirements as tested by ASTM E2357 and water barrier requirements as tested by ASTM E331 when THERMAX XARMOR™ (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 XARMOR™ (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 seal all joints between boards with LIQUIDARMOR-CM Sealant and Flashing.

6. AVAILABILITY

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

7. WARRANTY

Fifteen-year limited Thermal warranty and Fifteen-year Water Resistive warranty may be applicable when used as a component in the THERMAX™ Wall System. See www.thermaxwallssystem.com for more details.

8. MAINTENANCE

Not applicable.



In the United States

The Dow Chemical Company
Dow Building Solutions

200 Larkin Center
Midland, MI 48674

For Technical Information:

1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

For Sales Information:

1-800-232-2436 (English)
1-800-565-1255 (French)

dowbuildingsolutions.com

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STYROFOAM™ Brand Extruded Polystyrene Foam Insulation

CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. 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 in the U.S. or 1-519-339-3711 in Canada.

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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