

DuPont™ Thermax™ (ci) Exterior Insulation

Innovative Rigid Polyiso Insulation with Outstanding Thermal, Moisture and Fire Performance

FEATURES/BENEFITS

Description

DuPont™ Thermax™ (ci) Exterior Insulation* is a rigid board insulation consisting of a glass-fiber-reinforced polyisocyanurate foam core faced with nominal 1.25 mil embossed BLUE™ thermoset-coated aluminum on one side and 0.9 mil smooth, reflective aluminum on the other. Designed for continuous insulation, Thermax™ (ci)'s foam core is homogenous – featuring finer cell size and better cell orientation, reducing wormholes and knit lines – resulting in 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.

Thermax™ (ci)'s integral durable thermoset coated aluminum facer provides a drainage plane and water resistive barrier, eliminating the need for a membrane or building wrap when used in conjunction with DuPont™ Flashing Products. With its low perm rating and high insulating value, Thermax™ (ci) can reduce the potential for condensation within the wall assembly. Thermax is also engineered with unique fiberglass reinforced core for enhanced fire performance making it the only polyisocyanurate insulation to have FM 4880 approval and can be used on walls and ceilings, up to 30 ft.

Ease of Installation

Thermax™ (ci):

- Eliminates the extra step of installing a membrane or building wrap when used with DuPont Flashing Products
- Can be installed exposed to the interior without a thermal barrier
- Features distinct free-rise technology for better product consistency, durability and fire performance over generic polyisocyanurate insulations
- Contains UV-stable technology – can remain uncovered up to six months
- Reduces the potential for condensation within the wall assembly
- Is lightweight – easy to cut, handle and install

Available Sizes

Sizes, R-values and edge treatment options for Thermax™ (ci) can be found in Table 1. Contact your local sales representative for additional sizes.

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

Nominal Board Thickness (in.)	R-Value	Board Size (ft.)	Edge Treatment
0.625	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	15.0	4 x 8/4 x 12	Shiplap
3	18.0	4 x 8/4 x 12	Shiplap

⁽¹⁾ Contact your DuPont 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 ft²·h·°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F)

⁽³⁾ Thermax™ Brand insulation has a higher R-Value at lower temperatures. At 40°F and 1" board thickness, R-Value is 6.6, and for 2" board thickness, R-Value is 13.2.

High Performance Durability

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

Complete System

Thermax™ Brand insulations have a wide variety of facers to meet the needs of a diverse range of projects. Choose products for interior/exterior, exposed/covered, robust/economic applications and more.

PROPERTIES

DuPont™ Thermax™ (ci) Exterior Insulation exhibits the properties and characteristics indicated in Table 2 when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-866-583-2583 when additional guidance is required for writing specifications that include this product.

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, max.	0.1
Water Vapor Permeance, ASTM E96, perms	≤0.04
Maximum Use Temperature, °F	250
Surface Burning Characteristics ⁽³⁾ , ASTM E84 for both foam core and finished product	Class A
Flame Spread	25
Smoke Developed	<450

¹ Aged R-value at 1" of cured foam @ 75°F mean temperature. R-value expressed in ft²·h²·°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.

TESTING

Applicable Standards

Thermax (ci) 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)

Notice

Thermax (ci) complies with the following codes:

- 2018, 2015, 2012, 2009 and 2006 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 4880 – Factory Mutual Class 1 Insulated Wall and Ceiling Panel. Contact Dupont Technical Support for most current FM 4880 attachment requirements.
- 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
- NFPA 285 compliant when installed as part of exterior wall assemblies in ICC-ES ESR-1659 or valid engineering judgement reports

- 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

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

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. Visit building.dupont.com/ warranties or contact your DuPont representative for details.

HANDLING

WARNING: For Professional Use Only – Read and follow the entire Handling section and the Safety Data Sheets (SDSs, formerly MSDSs or Material Safety Data Sheets) carefully before use. The information below is designed to protect the user and allow for safe use and handling of Thermax™ Brand products. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

- For optimal performance seal all joints between boards with LiquidArmor™ Sealant and Flashing.
- Thermax™ Brand products should be used only in strict accordance with product application instructions.
- Thermax™ Brand 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 DuPont at 1-866-583-2583.

Disposal

Dispose of any residual Thermax™ Brand product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.



**For more information visit us at
thermaxwallsystem.com
or call 1-866-583-2583**

NOTICE: No freedom from any patent owned by DuPont 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. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries or regions. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO EXPRESS WARRANTIES ARE GIVEN EXCEPT FOR ANY APPLICABLE WRITTEN WARRANTIES SPECIFICALLY PROVIDED BY DUPONT. ALL IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. The buyer assumes all risks as to the use of the material. Buyer's exclusive remedy or any claim (including without limitations, negligence, strict liability, or tort) shall be limited to the refund of the purchase price of the material. Failure to strictly adhere to any recommended procedures shall release DuPont Specialty Products USA, LLC or its affiliates, of all liability with respect to the materials or the use thereof. The information herein is not intended for use by non-professional designers, applicators or other persons who do not purchase or utilize this product in the normal course of their business.

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 (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-2583 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 DuPont can give assurance that mold will not develop in any specific system.

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