

DuPont™ Thermax™ XARMOR™ (ci) Exterior Insulation

Toughest, Most Durable Polyiso Insulation for the Thermax™ Wall System

OVERVIEW

Description

DuPont™ Thermax™ XARMOR™ (ci) Exterior Polyisocyanurate Insulation is the toughest insulation for the patented Thermax™ Wall System. Designed for continuous insulation, Thermax™ XARMOR™ (ci)'s glass-fiber-reinforced polyisocyanurate foam core is homogenous – featuring finer cell size and better cell orientation, reducing voids and knit lines – resulting in one of the highest R-values available for immediate insulation and weather protection on the job site, as well as long-term thermal performance.

Thermax™ XARMOR™ (ci) Insulation is also the only Thermax™ Insulation with a dark exterior facer optimized to go behind rain screen exteriors. Its integral, durable thermoset-coated aluminum facer provides a drainage plane, water-resistive barrier and exterior sheathing; eliminating the need for a membrane, building wrap or exterior gypsum. Boasting a strong 4.0 mil embossed, acrylic-coated exterior foil facer, Thermax™ XARMOR™ (ci) Insulation provides builders with more durability for long-term performance.

With its low perm rating and high insulating value, Thermax™ XARMOR™ (ci) Insulation can help reduce the potential for condensation within the wall assembly. Thermax™ is also manufactured using a distinct free-rise technology using a unique fiberglass core for better product consistency, durability and fire performance than generic polyisocyanurate insulations.

Features and Benefits

- **Ease of Installation:** Eliminates the extra step of installing a membrane or building wrap when used with DuPont™ LiquidArmor™ and DuPont™ DuraGard CM™. Designed for installation behind rain screen exteriors. Is lightweight, easy to cut, handle and install.
- **High Performance Durability:** Provides air and water protection. R-Value of 6.9 at 1" thickness.
- **Moisture Resistant and UV Stability:** Helps reduce the potential for condensation within the wall assembly. Contains UV-stable technology – can remain uncovered up to six months. Pressure washable up to 1,000 psi.

Sustainable Solutions

- **Ozone and Global Warming:** Zero ozone-depleting potential (ODP) and negligible global warming potential.
- **Continuous Insulation (CI):** Aids in meeting IECC and ASHRAE 90.1 energy standards.
- Thermax™ XARMOR™ (ci) Insulation is a continuous polyisocyanurate (polyiso) insulation engineered to fulfill key sustainability criteria;



Applications

DuPont™ Thermax™ XARMOR™ (ci) Exterior Insulation is an ideal solution for the following building types:

- Thermax™ XARMOR™ (ci) Insulation is an ideal solution for exterior applications over steel stud, masonry, and CMU/concrete walls for the following building types:
- Institutional Buildings
- Metal Buildings
- High Rise Buildings.
- Multifamily Buildings
- Mixed-Use and Retail Buildings.
- Public Municipal Buildings.

Warranty

- In the US, a 20-year thermal warranty is available. For additional warranty information, please visit building.dupont.com or contact your DuPont representative for details.

- Energy Efficiency: Glass fiber-reinforced foam core with high R-value. Reduces the carbon footprint by minimizing energy consumption for comfort.
- Red List Approved: 99% of ingredients in the final product, present at or above 100 ppm, are free from Red List chemicals and qualify for LEED v4 and v4.1 credits.
- Sustainable Manufacturing: Made from 100% renewable electricity. (DuPont has offset electricity usage with Renewable Energy Credits since 2016.)
- Safer by Design: Low VOC, HFC free, can be left exposed without a thermal barrier (UL 1715).

Standard Sizes

Standard Sizes, R-Values and Edge Treatments for Thermax™ XARMOR™ (ci) Exterior Insulation

Thickness	Width	Length	R-Value	Edge Treatment
1.0 in.	4 ft.	8 ft.	7.0	Square Edge
1.55 in.	4 ft.	8 ft.	11.0	Square Edge, Shiplap
2.0 in.	4 ft.	8 ft.	13.0	Square Edge, Shiplap
2.5 in.	4 ft.	8 ft.	16.0	Shiplap
3.0 in.	4 ft.	8 ft.	19.0	Shiplap

Note: Please be advised that additional sizes may be available. Availability of all sizes varies by region and is subject to change. For further information, please contact your local DuPont Sales Representative or call us at 1-866-338-7668.

TESTING AND CODE COMPLIANCE

Thermax™ XARMOR™ (ci) Insulation exhibits the properties and characteristics indicated in the table below when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-833-338-7668 when additional guidance is required for writing specifications that include this product.

TEST METHOD	TEST TITLE	PROPERTY	RESULTS
FIRE			
UL 723	Test Method for Surface Burning Characteristics of Building Materials	Surface Burning Characteristics ¹	Flame Spread ≤ 25 Smoke Developed ≤ 450 Core and Finished Product
NFPA 285	Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components	Fire Propagation - Exterior ²	Pass
NFPA 286	Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth	Fire Propagation - Interior	Pass
NFPA 268	Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source	Ignitability - Exterior	Pass
THERMAL			
ASTM C518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	Thermal Resistance 1 inch @ 75°F mean temp	7.0 F ft ² h/Btu/in
ASTM D2126	Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging	Dimensional Stability	0.2% linear (length & width)
STRENGTH			
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics	Compressive Strength	30 psi
ASTM C203	Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation	Flexural Strength	85 psi
ASTM D1623	Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics	Tensile Strength	1000 psf
AIR			

ASTM E2178	Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials	Rate of Leakage	<0.02 L/s*m ²
ASTM E2357	Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies	Air Leakage	Pass
ASTM E283	Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen	Rate of Leakage	Pass
WATER			
ASTM E96	Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials	Water Vapor Permeance.	0.03 perm
ASTM C209	Standard Test Methods for Cellulosic Fiber Insulating Board	Water Absorption	0.1% volume
ASTM E331	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference	Water Penetration	Pass

¹Calculated flammability values for this or any other material are not intended to represent hazards that may be present under actual fire conditions.

²See Jensen Hughes engineering judgement

CODE COMPLIANCE

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

CODE	DESCRIPTION
US Product Listings & Verifications	<p>ASTM C1289 - Type I, Class 2 2021, 2018, 2015, 2012, and 2009 International Residential Code (IRC) 2021, 2018, 2015, 2012, and 2009 International Building Code (IBC) 2021, 2018, 2015, 2012, 2009 International Energy Conservation Code (IECC) 2021, 2018, 2015, 2012 International Green Construction Code (IGCC) Thermax™ products are covered under Underwriters Laboratories Inc. (UL) File R5622 UL 723 - Surface Burning Characteristics</p> <p>UL 1256 - Fire Test of Roof Deck Constructions Nos. 99, 120 and, 123 UL 263 - 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, V321, V322, V454, V482, V499, W404, W307, W413, W417, and W444 FM 4880 - Wall Construction Metal-Faced – Class 1 Fire Rated to Max. 30' Exposure High, 3" Thick, 4' Wide, When Installed as Described in the Current Edition of FMRC Approval Guide. Contact Dupont Technical Support for most current FM 4880 attachment requirements.</p>
Regional Code Listings & Reports	<p>2022 California Green Standards Code California Bureau of Household Goods And Services Directory of Certified Insulation Materials - T 1534</p>
US Code Reports	<p>Intertek CCRR-0435 DrJ TER 1506-03</p>

HANDLING

Warning

- **WARNING: For Professional Use Only** - Read and follow the entire Safety, Handling, and Storage section carefully before use. The information below is designed to protect the user and allow for safe use and handling of DuPont products.

Due to the critical technical design aspects of many of its applications, DuPont recommends that qualified designers or consultants design your system. Follow all applicable federal, provincials, territories, local and employer regulations.

Precautionary Statements

Product Limitations

- 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.

Cleanup & Disposal

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

Life & Storage

- **CAUTION:** Thermax™ Brand Insulation is combustible. 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 call the DuPont Contact Center at 866-583-2583 or contact your local building inspector. For emergencies contact Chemtrec 800-424-9300, CCN (Contract Number) 7442.
- Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.
- If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air. Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.
- During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources.
Store above standing water

Supplemental Information

- The product meets the definition of an article and is exempt from US TSCA and Canadian DSL inventory requirements.
Compliant with Title 42 Chapter 85 Clean Air Act: Subchapter VII American Innovation and Manufacturing Act of 2020, and Section 612 US EPA Significant New Alternative Policy. Global Warming Potential <150. This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Handling & Use

- Use gloves to protect from mechanical injury.
- Before installation, substrate must be clean, dry, smooth and free from oil, grease, rust, frost and snow. Since dust would impair the performance of adhesives and finishes, dusty surfaces should be brushed off before products are applied.



For more information, visit us at
building.dupont.com
or call us at 1-833-338-7668

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