

Styrofoam™ Brand Panelmate™ and Panelmate™ Ultra Insulation

Moisture-Resistant Insulation for Precast Concrete Wall Systems

FEATURES/BENEFITS

Description

Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Extruded Polystyrene Foam Insulation* products feature moisture resistance for long-lasting thermal performance in precast concrete sandwich panel applications.

The R-value (RSI)* of Styrofoam™ Brand Panelmate™ Insulation products helps create concrete wall systems that are durable, strong and energy efficient. These products are highly resistant to moisture due to DuPont's distinct extrusion process. Closed-cell, rigid plastic foam is extruded with smooth, high-density skins making Panelmate™ and Panelmate™ Ultra moisture resistant and helping to maintain their thermal value when subjected to the concrete panel manufacturing process.

Styrofoam™ Brand Panelmate™ Ultra is designed specifically for insulated precast concrete panels that require above-average thermal performance. It uses patented carbon black materials in the foam for greater thermal performance over other extruded polystyrene insulations. This enhanced formulation helps the foam to absorb infrared radiation, slowing its transmission through the foam and lowering heat flow.

Ease of Installation

When installed properly, Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation products offer economical long-term thermal performance under the harsh conditions of freeze-thaw cycling, a common phenomenon found in precast concrete panels in cold climates.

Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation boards:

- are available in custom sizes and edge treatments
- are lightweight – easy to handle, cut and install
- feature smooth, high-density skins
- resist moisture and freeze-thaw cycling
- provide economical long-lasting thermal performance
- help create concrete wall systems that are durable, strong and energy efficient

Available Sizes

- Width and length: 2' x 8' (600 mm x 2,400 mm)
- Thickness: Custom sizes and edge treatment available upon request.

Not all products are available in all parts of the country. Other product sizes are available by custom order. Contact a DuPont representative for additional information.

Sustainable Solutions

- Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation are reusable in many applications.
- Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation are hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential.
- Contain an average of 20% pre-consumer recycled content certified by UL Environment Inc.

* Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Extruded Polystyrene Foam Insulation is a former product of The Dow Chemical Company.

** R means resistance to heat flow. The higher the R-value or RSI (R-Value Système International), the greater the insulating power.

PROPERTIES

Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation products exhibit the physical properties indicated in Table 1 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 1: Physical Properties (U.S.) of Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation

| Property and Test Method | Value | |
|---|---|---|
| | Styrofoam™ Brand Panelmate™ | Styrofoam™ Brand Panelmate™ Ultra |
| Thermal Resistance per inch, ASTM C518 @ 75°F (24°C) mean temp., ft ² ·h·°F/Btu (m ² ·°C/W) min., R-value (RSI) | 5.0 (0.87) | 5.6 (0.97) |
| Compressive Strength, ASTM D1621, kPa, min. | 16 (110) | 25 (170) |
| Water Absorption, ASTM C272, % by volume, max. | 0.9 | 0.7 |
| Water Vapour Permeance, ASTM E96, 1" (25 mm), perms (ng/Pa·s·m ²), max. | 1.5 (90) | 1.5 (90) |
| Maximum Use Temperature, °F (°C) | 165 (74) | 165 (74) |
| Coefficient of Linear Thermal Expansion, ASTM D696, in/in·°F (mm/m·°C) | 3.5 x 10 ⁻⁵ (6.3 x 10 ⁻²) | 3.5 x 10 ⁻⁵ (6.3 x 10 ⁻²) |
| Flexural Strength, ASTM C203, psi (kPa), min. | 35 (240) | 43 (300) |

*R means resistance to heat flow. The higher the R-value or RSI (R-Value Système International), the greater the insulating power.

TESTING

Applicable Standards

ASTM International

- ASTM C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- ASTM C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- ASTM D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- ASTM E96 – Standard Test Methods for Water Vapour Transmission of Materials
- ASTM D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- CAN/ULC S701

- Standard for Thermal Insulation, Polystyrene Boards and Pipe Covering, Type 2 (Styrofoam™ Brand Panelmate™ Insulation), Type 3 (Styrofoam™ Brand Panelmate™ Ultra Insulation)

Notice

Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation products comply with the following codes:

- CCMC Evaluation Listing 12085-L (Styrofoam™ Brand Panelmate™)
- CCMC Evaluation Listing 11420-L (Styrofoam™ Brand Panelmate™ Ultra)

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 Styrofoam™ Brand products. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

- Styrofoam™ Brand Panelmate™ and Styrofoam™ Brand Panelmate™ Ultra Insulation products are 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 DuPont at 1-866-583-2583 or contact your local building inspector.
- Dispose of any residual Styrofoam™ Brand product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.

Supplemental Information

View building.dupont.com or contact a local DuPont representative for more specific installation and handling instructions.

Shelf Life and Storage

When stored outdoors, keep insulation boards tarped or covered to protect from weather and weighted down to prevent boards from being blown around by the wind. Store above standing water.



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

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Styrofoam™ 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 (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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