



DuPont™ Styrofoam™ Brand Panelmate™ XPS Foam Insulation

Moisture-Resistant Insulation for Precast Concrete Wall Systems Low-GWP Formulation

FEATURES/BENEFITS

Description

DuPont™ Styrofoam™ Brand Panelmate™ Extruded Polystyrene (XPS) Foam Insulation* product features moisture resistance for long-lasting thermal performance in precast concrete sandwich panel applications.

The thermal resistance properties of Styrofoam™ Brand Panelmate™ Insulation products helps create concrete wall systems that are durable, strong and energy efficient. The product is 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™ moisture resistant and helping to maintain its thermal value when subjected to the concrete panel manufacturing process.

Ease of Installation

When installed properly, Styrofoam™ Brand Panelmate™ Insulation product helps to 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™ 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

Sustainable Solutions

- Styrofoam™ Brand Panelmate™ Insulation is reusable in many applications.
- Styrofoam™ Brand Panelmate™ Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free with zero ozone depletion potential and a GWP <150.
- Contains an average of 20% pre-consumer recycled content certified by UL Environment Inc.

Available Sizes

Available sizes, RSI, LTTR and edge treatments for Styrofoam™ Brand Panelmate XPS Insulation can be found in Table 1. Additional sizes may be stocked on a regional basis. Contact your local DuPont seller for additional information.

TABLE 1: Sizes, Thermal Resistance, LTTR values and Edge Treatments for Styrofoam™ Brand Panelmate™ XPS Foam Insulation

Board Thickness ⁽¹⁾ mm (in)	RSI (R-value) ⁽²⁾⁽³⁾	LTTR m ² *°C/W ⁽⁴⁾ RSI (R-value)	Board Size mm (in)	Edge Treatment
50 (2)	1.72 (10.0)	1.72 (9.76)	610 x 2438 (24 x 96)	Butt Edge
75 (3)	2.64 (15.0)	2.60 (14.76)	610 x 2438 (24 x 96)	Butt Edge
100 (4)	3.52 (20.0)		610 x 2438 (24 x 96)	Butt Edge

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

⁽²⁾ RSI or R-value means resistance to heat flow. The higher the RSI (R-Value), the greater the insulating power. RSI values are expressed in m² °C/W, R-values are expressed in ft²·h·°F/Btu.

⁽³⁾ Thermal values are consistent with the criteria of ASTM C518 and are not assessed by the CCMC. Depending on the product, a 15-, 30- or 50- year limited thermal warranty is available.

⁽⁴⁾ Long Term Thermal Resistance (LTTR) values determined per CAN/ULC-S770.

PROPERTIES

DuPont™ Styrofoam™ Brand Panelmate™ Extruded Polystyrene (XPS) Foam Insulation exhibits the physical properties indicated in Table 2 when tested as represented. Review all instructions 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 Styrofoam™ Brand Panelmate™ XPS Foam Insulation**

Property and Test Method	Value ⁽⁴⁾
Compressive Strength ⁽¹⁾ , ASTM D1621, kPa (psi)	110 (16)
Water Absorption, ASTM D2842, % by volume	0.3
Water Vapour Permeance, ASTM E96, ng/Pa·s·m ² (perm), max. ⁽²⁾	73 (1.3)
Maximum Use Temperature, °C (°F)	74 (165)
Coefficient of Linear Thermal Expansion, ASTM D696, mm/m · °C (in/in · °F)	6.3 x 10 ⁻² (3.5 x 10 ⁻⁵)
Surface Burning Characteristics ⁽³⁾	
Flame Spread	<300
Smoke Developed	<700

* These are typical physical properties. Not to be construed as sales specifications.

⁽¹⁾ Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first. Since Styrofoam™ Brand XPS Foam Insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. For static loads, 3:1 is suggested. For dynamic loads, contact DuPont technical services.

⁽²⁾ Based on 1" (25 mm) thickness.

⁽³⁾ Tested per CAN/ULC-S102.2. Refer to UL Directory for details on foam thickness and maximum density evaluated.

⁽⁴⁾ Values are consistent with criteria of CAN/ULC-S701.1:2017

TESTING

Styrofoam™ Brand Panelmate™ Insulation meets CAN/ULC-S701.1: 2017 – STANDARD FOR THERMAL INSULATION, POLYSTYRENE BOARDS. Applicable standards include:

- **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
- **CAN/ULC-S770** - Standard Method of Test for Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulation Foams

Notice

Styrofoam™ Brand Panelmate™ Insulation products complies with the following codes:

- CCMC Evaluation Listing 12085-L
- CAN/ULC S701.1:2017 Type 2

HANDLING

WARNING: For Professional Use Only – Read and follow the entire Handling section and the 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

- DuPont™ Styrofoam™ Brand Panelmate™ Extruded Polystyrene (XPS) Foam Insulation is combustible; protect from high heat sources.
- A protective barrier or thermal barrier is required as specified in the appropriate building code. For more information, consult MSDS, call DuPont at 1-833-338-7668 or contact your local building inspector.
- Dispose of any residual Styrofoam™ Brand product, coated debris, or solvent in accordance with applicable federal, province, territory 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 covered with white plastic film or light-colored tarps 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**

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.

DuPont™ 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 call the DuPont Contact Center at 1-866-583-2583 or contact your local building inspector. For emergencies contact Chemtrec 800-424-9300, CCN (Contract Number) 7442.

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.

DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, SM or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted. © 2024 DuPont. All rights reserved.