

# DuPont™ Styrofoam™ Brand SM XPS Foam Insulation

Versatile, Weather-Resistant Insulation for Below-Grade Applications

## FEATURES/BENEFITS

### Description

DuPont™ Styrofoam™ Brand SM Extruded Polystyrene (XPS) Foam Insulation is a versatile, multipurpose extruded polystyrene board that fits the needs of the commercial and residential foundation and slab market.

Styrofoam™ Brand SM Insulation's closed-cell structure resists water absorption, enabling it to retain a high R-value (RSI)\*\* over time – a necessary property in below-grade residential foundation applications. It helps to protect foundation damp-proofing and waterproofing, especially during backfilling. It also provides a secondary barrier against groundwater leakage.

With Styrofoam™ Brand SM, the freeze-thaw cycling of the foundation wall is minimized, reducing the possibility of cracking. And a warmer foundation wall reduces the potential for condensation and adds to the thermal mass of the building.

### Ease of Use

Styrofoam™ Brand SM Insulation is:

- Usable against almost any commercial or residential foundation wall in above- and below-grade applications.
- Lightweight – easy to handle, cut and install
- Resistant to moisture infiltration, condensation and freeze-thaw cycles
- An excellent thermal barrier – helps reduce heat loss or
- Available in ranges of thicknesses, surface and edge treatments
- Reusable in many applications

### Available Sizes

Available sizes, R-Values and edge treatments for Styrofoam™ Brand SM 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, R-values and Edge Treatments for Styrofoam™ Brand SM XPS Foam Insulation**

Standard Size (Imperial)			
Board Thickness <sup>1)</sup> , Inches (mm)	R-Value	Board Size (Inches)	Edge Treatment
1.0	5.0	24 x 96	Butt Edge & Shiplap
1.5	7.5	24 x 96	Butt Edge & Shiplap
2.0 <sup>2)</sup>	10.0	24 x 96	Butt Edge & Shiplap
2.4	12.0	24 x 96	Shiplap
2.5	12.5	24 x 96	Shiplap
3.0	15.0	24 x 96	Butt Edge & Shiplap
4.0	20.0	24 x 96	Butt Edge & Shiplap
Standard Size (Metric)			
Board Thickness <sup>1)</sup> , Millimeters	RSI	Board Size (mm)	Edge Treatment
50	1.73	600 x 2400	Butt Edge & Shiplap
75	2.61	600 x 2400	Butt Edge & Shiplap

<sup>1</sup> Not all product sizes are available in all regions.

<sup>2</sup> Also available in 4x8 Shiplap

\* Styrofoam™ Brand SM XPS Foam Insulation is a former product of The Dow Chemical Company .

\*\* R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power.

## Sustainable Solutions

DuPont™ Styrofoam™ Brand SM Extruded Polystyrene (XPS) Foam Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free with zero ozone depletion potential and is reusable in many applications. Styrofoam™ Brand products produced in North America contain an average of 20% pre-consumer recycled content certified by UL Environment Inc.

## PROPERTIES

Styrofoam™ Brand SM Insulation exhibits physical properties as 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 Styrofoam™ Brand SM XPS Foam Insulation**

Property and Test Method	Value
Thermal Resistance per inch (25 mm), ASTM C518 @ 75°F (24 °C) mean temp., ft <sup>2</sup> ·h·°F/Btu (m <sup>2</sup> ·°C/W) min., R-value (RSI).	5.0 (.88)
Compressive Strength <sup>(1)</sup> , ASTM D1621, psi (kPa), min..	30 (207)
Water Absorption, ASTM D2842, % by volume, max.	0.3
Water Absorption, ASTM C272, % by volume, max	0.1
Water Vapour Permeance, ASTM E96, perm (ng/Pa·s·m <sup>2</sup> ), max. <sup>(2)</sup>	1.5 (90)
Maximum Use Temperature, °F (°C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in·°F (mm/m·°C)	3.5 x 10 <sup>-5</sup> (6.3 x 10 <sup>-2</sup> )
Surface Burning Characteristics, ASTM E84 for both foam core and finished product <sup>(3)</sup>	Class A
Flame Spread	<300
Smoke Developed	<700

<sup>1</sup> Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

<sup>2</sup> Based on 1" (25 mm) thickness.

<sup>3</sup> Tested per CAN/ULC S102.2. Refer to UL and CCMC listings for details on foam thickness and maximum density evaluated.

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## TESTING

### Applicable Standards

#### ASTM International:

- **ASTM C518** – Standard Test Method for Steady-State Thermal Transmission Properties by wMeans of the Heat Flow Meter Apparatus
- **ASTM D1621** – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- **ASTM E96** – Standard Test Methods for Water Vapour Transmission of Materials
- **ASTM D696** – Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30° and 30°C with a Vitreous Silica Dilatometer
- **ASTM D2842** – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- **CAN/ULC S701.1-17 Type 4**
- **CCMC 04888-L**

### Use Conditions

- It is recommended that any masonry irregularities or jagged surfaces on the foundation wall or slab be removed prior to installation.
- Below-grade walls should be protected from moisture leakage and dampness prior to installation of **DuPont™ Styrofoam™ Brand SM Extruded Polystyrene (XPS) Foam Insulation**
- Use a polystyrene compatible adhesive to hold boards in place during backfilling. Apply caulk or mastic to the top of boards to prevent water infiltration behind the insulation. To complete the installation, parge the above-grade portions of **Styrofoam™ Brand SM Insulation**

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## 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.

### Precautionary Statements

- **Styrofoam™ Brand SM Insulation** 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 DuPont at 1-866-583-2583 or contact your local building inspector.

- Dispose of any residual DuPont product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.
- Follow all applicable federal, state, local and employer regulations.

### 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](http://styrofoam.com)  
or call 1-866-583-2583**

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**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, 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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