

# DuPont™ Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation

Water-Resistant Insulation for Protected Membrane Roofing Systems  
U.S. HFC Regulation Compliant Formulation

## FEATURES/BENEFITS

### Description

DuPont™ Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation\* is designed for installation above waterproofing or roofing membranes in protected membrane roof (PMR) or green roof applications.

Engineered for use on heavyweight decks (e.g. reinforced concrete) with a ballast layer of gravel or concrete slabs, Styrofoam™ Brand Roofmate™ ST-100 helps the roof membrane maintain a steady temperature, minimizing the harmful effects of freeze-thaw cycles, weathering and physical damage during and after construction.

### Sustainable Solutions

Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential and is reusable in many applications.

### Ease of Installation

Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation is:

- Strong, yet lightweight
- Easy to fabricate into various sizes and shapes to meet specific design needs
- Suited for Protected Membrane Roofs (PMR)
- Water and rot resistant – ideal for insulating green roofs
- Lined with ½" x ¼" drainage channels on the bottom long edge
- Reusable

### Available Sizes

U.S. sizes, R-values and edge treatments for Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation can be found in Table 1.

**TABLE 1: U.S. Sizes, R-Values and Edge Treatments for Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation**

Nominal Board Thickness <sup>1</sup> (in.)	R-Value <sup>2</sup>	Board Size (ft.)	Edge Treatment
1.0	5.0	2 x 8	Butt Edge
1.5	7.5	2 x 8	Butt Edge
2.0	10.0	2 x 8	Butt Edge
3.0	15.0	2 x 8	Butt Edge
3.5	17.5	2 x 8	Butt Edge
4.0	20.0	2 x 8	Butt Edge

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

<sup>2</sup> R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values are expressed in ft<sup>2</sup>·h·°F/Btu. R-value determined by ASTM C518.

\* Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation is a former product of The Dow Chemical Company.

\*\* Aged R-value at 1" of cured foam @ 75°F mean temperature. R-value expressed in ft<sup>2</sup>·h·°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).

## PROPERTIES

DuPont™ Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation exhibits physical properties as indicated in Table 2 when tested as represented. Please contact DuPont at 1-833-338-7668 when additional guidance is required for writing specifications that include this product.

**TABLE 2: U.S. Physical Properties<sup>(1)</sup> of Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation**

Property and Test Method	Value
Thermal Resistance per in. ASTM C518 @ 75°F mean temp., ft <sup>2</sup> ·h·°F/Btu, R-value <sup>(2)</sup> , min.	5.0
Compressive Strength <sup>(3)</sup> , ASTM D1621, psi, min.	40
Water Absorption, ASTM C272, % by volume, max.	0.1
Water Vapor Permeance <sup>(4)</sup> , ASTM E96, perm, max	1.0
Maximum Use Temperature, °F	165
Coefficient of Linear Thermal Expansion, ASTM D696, in/in·°F	3.5 x 10 <sup>-5</sup>
Flexural Strength, ASTM C203, psi, min.	60
Dimensional Stability, ASTM D2126, % linear change, max.	2.0
Flame Spread <sup>(5)</sup> , ASTM E84	15
Smoke Developed, ASTM E84	165
Surface Burning Characteristics, ASTM E84 for both foam core and finished product	Class A
Flame Spread	25
Smoke Developed	<450

<sup>1</sup> Values are consistent with the criterion of ASTM C578

<sup>2</sup> R means resistance to heat flow. The higher the R-value, the greater the insulating power.

<sup>3</sup> Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

<sup>4</sup> Based on 1" thickness.

<sup>5</sup> These numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

## TESTING

### Applicable Standards

Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation meets ASTM C578-19, Type VI – Standard Specification for Rigid Cellular Polystyrene Thermal Insulation. Applicable standards include:

- **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
- **D2842** – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- **C272** – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
- **E96** – Standard Test Methods for Water Vapor Transmission of Materials
- **E84** – Standard Test Method for Surface Burning Characteristics of Building Materials
- **D696** – Standard Test Method for Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
- **C203** – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- **D2126** – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging

### Notice

DuPont™ Styrofoam™ Brand Roofmate™ ST-100 XPS Insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES 4755
- Underwriters Laboratories, Inc. (UL) Classified
- Factory Mutual Approved – Subject to conditions of approval as a roof insulation when installed as described in the current edition of FM Approval Guide

### Warranty

In the United States, a 50-year thermal limited warranty is available on Styrofoam™ products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Visit [building.dupont.com/warranties](http://building.dupont.com/warranties) or contact your DuPont representative for details.

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## HANDLING

**WARNING: For Professional Use Only** – Read and follow the entire Safety, Handling, and Storage section and Safe Handling document on BeyondBlue.DuPont.com carefully before use. The information below is designed to protect the user and allow for safe use and handling of DuPont products. Follow all applicable federal, state, local and employer regulations.

### Precautionary Statements

- **Styrofoam™ Brand Roofmate™ ST-100 XPS 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, call DuPont at 1-833-338-7668 or contact your local building inspector.
- Because of the critical technical design aspects of many of its applications, DuPont recommends that qualified designers or consultants design the system. Contact a local DuPont representative for more specific instruction.
- Cover exposed Styrofoam™ with a light opaque covering to protect from weather and sunlight. Do not use clear plastic covering.

### 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.

### Disposal

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



**For more information visit us  
at [styrofoam.com](http://styrofoam.com)  
or call 1-833-338-7668**

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**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 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.

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