CARLISLE SYNTEC SYSTEMS

DuPont™ Styrofoam™ Brand Roofmate™ XPS Foam Insulation

Water-Resistant Insulation for Protected Membrane Roofing Systems

Overview

DuPont Styrofoam Brand Roofmate Extruded Polystyrene (XPS) Foam 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 helps the roof membrane maintain a steady temperature, minimizing the harmful effects of freeze-thaw cycles, weathering, and physical damage during and after construction.

Features and Benefits

- 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

Sustainable Solutions

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

Properties

DuPont Styrofoam Brand Roofmate Extruded Polystyrene (XPS) Foam Insulation exhibits physical properties as indicated in the Typical Properties and Characteristics table above when tested as represented. Review all instructions and Safety Data Sheet (SDS) before use.

Typical Properties and Characteristics

Physical Property	Test Method	Value
Thermal Resistance per inch	ASTM C 518	75°F mean temp., ft²•h•°F/Btu, R-value[1], min 5.0
Compressive Strength[2] psi, min	ASTM D1621	40
Water Absorption % by volume, max.	ASTM C272	0.1
Water Vapor Permeance[3] perm, max	ASTM E96	1.0
Maximum Use Temperature,		165 °F
Coefficient of Linear Thermal Expansion in/in °F	ASTM D696	3.5×10^{-5}
Flexural Strength psi, min.	ASTM C203	60
Dimensional Stability % linear change, max.	ASTM D2126	2.0
Flame Spread[4]	ASTM E84	15
Smoke Developed	ASTM E84	165
Surface Burning Characteristics, for both foam core and finished product Flame Spread Smoke Developed	ASTM E84	Class A 25 <450

[1] R means resistance to heat flow. The higher the R-value, the greater the insulating power.
[2] Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.
[3] Based on 1" thickness.
[4] This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

Available Sizes

U.S. sizes, R-values and edge treatments for Styrofoam Brand Roofmate Insulation can be found in the table below.

Standard Sizes

Nominal Board Thickness[1] (in.)	R-Value[2]	Board Size (in.)	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

[1] Not all product sizes are available in all regions.
[2] R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values expressed in ft² •h•°F/Btu. R-value determined by ASTM C518

*Styrofoam Brand Plazamate Extruded Polystyrene (XPS) Foam 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 ft2•h•°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).

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Testing

Applicable Standards

Styrofoam Brand Roofmate Insulation meets ASTM C578-01, 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 Extruded Polystyrene (XPS) Foam Insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES ESR-4755
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369

Precautions

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

- Styrofoam Brand Roofmate 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 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.

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.

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