

DuPont™ Styrofoam™ Brand Cavitymate™ Ultra XPS Foam Insulation

Durable, High R-Value, Cavity Wall Insulation

FEATURES/BENEFITS

Description

DuPont™ Styrofoam™ Brand Cavitymate™ Ultra Ultra Extruded Polystyrene (XPS) Foam Insulation* is a moisture-resistant, durable and lightweight extruded polystyrene foam board specifically designed for use in wet cavity wall environments. Manufactured with a patented carbon black technology, Styrofoam™ Brand Cavitymate™ Ultra features an R-value of 5.6 per inch (RSI of 0.97 per 25 mm)**, the highest of all extruded polystyrene foam insulation products. Its closed cell structure provides advanced long-term thermal performance and moisture control.

Available Sizes

U.S. and Canadian sizes, R-values, and edge treatments can be found in Tables 1 and 2, respectively.

Ease of Installation

Styrofoam™ Brand Cavitymate™ Ultra Insulation boards are easy to handle, cut and install. Scored to snap for snug fitting between wall ties, Styrofoam™ Brand Cavitymate™ Ultra can save time and money on the job site.

Sustainable Solutions

Styrofoam™ Brand Cavitymate™ Ultra Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free with zero ozone depletion potential. Styrofoam™ Brand insulation products produced in North America contain an average of 20% pre-consumer recycled content certified by UL Environment Inc.

TABLE 1: U.S. Sizes, R-values and Edge Treatments for Styrofoam™ Brand Cavitymate™ Ultra XPS Foam Insulation

Nominal Board Thickness ⁽¹⁾ , in.	RSI (R-value) ⁽²⁾	Ultra air barrier wall system Board Size, in.	Standard Board Size, in.	Edge Treatment
2.18	12.0	15 3/4" x 96"	16" x 96"	Square Edge
2.50	14.0	15 3/4" x 96"	16" x 96"	Square Edge
3.00	16.8	15 3/4" x 96"	16" x 96"	Square Edge

¹ Not to be considered sales specifications.

² R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values are expressed in ft²·h·°F/Btu. R-value determined by ASTM C518.

TABLE 2: Canadian Sizes, R-values and Edge Treatments for Styrofoam™ Brand Cavitymate™ Ultra XPS Foam Insulation

Nominal Board Thickness ⁽¹⁾ , mm	RSI (R-value)	Ultra air barrier wall system Board Size, mm	Edge Treatment
75	2.90 (16.5)	400 x 2400	Square Edge
91	3.52 (20)	400 x 2400	Square Edge
75	2.90 (16.5)	600 x 2400	Square Edge

¹ Additional thicknesses available. Contact your DuPont representative for more information. Not all thicknesses available in all regions.

² RSI or R-value means resistance to heat flow. The higher the RSI or R-value, the greater the insulating power. R-values are expressed in ft²·h·°F/Btu. RSI values are expressed in m²·C/W. R-value determined by ASTM C518.

* Styrofoam™ Brand Cavitymate™ Ultra ST-100 (SB) XPS Insulation is a product of DuPont de Nemours.

** Aged R-value (RSI) at 75°F (24°C) mean temp. R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power. Refer to Table 3 for thermal resistance at other mean temperatures.

PROPERTIES

DuPont™ Styrofoam™ Brand Cavitymate™ Ultra Extruded Polystyrene (XPS) Foam Insulation exhibits physical properties as indicated in Table 3 when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-833-338-7668 when additional guidance is required for writing specifications that include this product.

TABLE 3: U.S. Physical Properties of Styrofoam™ Brand Cavitymate™ Ultra Extruded Polystyrene Foam Insulation

Test Method	Property	Typical Value	Units
ASTM C518	Thermal Resistance ⁽¹⁾ per in.	<u>2.125"</u> <u>2.5"</u> <u>3.0"</u> 12.0 14.0 16.8	ft ² x h x °F/Btu, R-value, 1 min. @ 75°F mean temp.
ASTM D1621	Compressive Strength ⁽²⁾	25	psi, min.
ASTM C272	Water Absorption	0.1	% by volume, max.
ASTM E96	Water Vapor Permeance	<u>2.125"</u> <u>2.5"</u> <u>3.0"</u> 0.8 0.65 0.50	perm, max.
-	Maximum Use Temperature	165	°F
ASTM D696	Coefficient of Linear Thermal Expansion	3.5 x 10 ⁻⁵	in/in x °F
ASTM C203	Flexural Strength	50	psi, min.
UL 723	Surface Burning Characteristics for both foam core and finished product Flame Spread Smoke Developed	Class A <25 <450	

¹ Values are consistent with the criteria of ASTM C578 and the FTC R-value rule (16 CFR Part 460).

² Vertical compressive strength is measured at 10 percent deformation or yield, whichever occurs first. Since Styrofoam™ Brand Extruded Polystyrene 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, 5:1 is suggested. Contact DuPont for design recommendations.

TABLE 4: Canadian Physical Properties of Styrofoam™ Brand Cavitymate™ Ultra Extruded Polystyrene Foam Insulation

Property and Test Method	Value
Thermal Resistance per in. (25 mm), ASTM C518, ft ² ·h·°F/Btu, (m ² · °C/W), R-value (RSI) ⁽¹⁾ min. @ 75°F mean temp. @ 40°F mean temp. @ 25°F mean temp.	5.6 (0.97) 6.0 (1.04) 6.3 (1.09)
Compressive Strength ⁽²⁾ , ASTM D1621, psi (kPa), min.	25 (170)
Water Absorption, ASTM D2842, % by Volume, max	0.3
Water Vapour Permeance, ASTM E96, perm (ng/Pa·s·m ²), max.	1.5 (90)
Maximum Use Temperature, °F (°C)	165 (73.8)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in·°F (mm/m·°C)	3.5 x 10 ⁻⁵ 6.3 x 10 ⁻²
Flexural Strength, ASTM C203, psi, min.	43.5 (300)
CAN/ULC S102.2 Surface Burning Characteristics for both foam core and finished product ⁽³⁾ Flame Spread ⁽⁴⁾ Smoke Developed	<300 <700

¹ Values are consistent with CAN/ULC S7011-17.

² Vertical compressive strength is measured at 10 percent deformation or yield, whichever occurs first. Since Styrofoam™ Brand Extruded Polystyrene 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, 5:1 is suggested. Contact DuPont for design recommendations.

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

⁴ 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

DuPont™ Styrofoam™ Brand Cavitymate™ Ultra Insulation meets ASTM C578 Type IV – Standard Specification for Rigid Cellular Polystyrene 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
- **E96** – Standard Test Methods for Water Vapor Transmission of Materials
- **D696** – Standard Test Method for Coefficient of 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
- **D2842** – Standard Test Method for Water Absorption of Rigid Cellular Plastics

Notice

Styrofoam™ Brand Cavitymate™ Ultra Insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES ESR 2142
- BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- National Building Code of Canada
- CCMC – Evaluation Listing #11420-L

Warranty

DuPont can provide technical information to help address questions when using **Styrofoam™ Brand Cavitymate™ Ultra**. Technical personnel are available to assist with any insulation project at 1-833-338-7668. Visit building.dupont.com/warranties for warranty information.

HANDLING

WARNING: For Professional Use Only. Read and follow the entire Safety, Handling, and Storage 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 DuPont products. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

- Since dust would impair the performance of adhesives and finishes, dusty surfaces should be brushed off before these products are applied. A light-colored, opaque protective covering should be used if excessive solar exposure is expected.
- **DuPont™ Styrofoam™ Brand Cavitymate™ Ultra Extruded Polystyrene (XPS) Foam 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 1-833-338-7668 or contact your local building inspector.

- Do not leave **Styrofoam™ Brand Cavitymate™ Ultra** exposed to direct sunlight for more than 90 days. Consult a DuPont representative if exposure is expected to be longer than 90 days. Prolonged exposure to ultraviolet radiation may cause the surface of **Styrofoam™ Brand Cavitymate™ Ultra** to become faded and dusty. The surface degradation will have no measurable effect on the insulating value of the plastic foam unless the deterioration is allowed to continue until actual foam thickness is lost.

Shelf Life and Storage

When stored outdoors, keep insulation boards covered with white plastic film or light-colored tarps or covered 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 DuPont product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.



**For more information visit us
at 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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