

DuPont™ Styrofoam™ Brand Ultra SL XPS Foam Insulation

High R-Value, Moisture-Resistant Insulation with Shiplap Edges

FEATURES/BENEFITS

Description

DuPont™ Styrofoam™ Brand Ultra SL Extruded Polystyrene (XPS) Foam Insulation* is a moisture-resistant, durable and lightweight extruded polystyrene foam board with shiplap edges designed specifically to be used as a continuous insulation (ci) and installed over block, concrete or metal stud backup behind masonry or stone veneers.

Manufactured with a patented carbon-black technology, Styrofoam™ Brand Ultra SL Insulation 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. With its closed-cell structure offering advanced long-term thermal performance and moisture control, Styrofoam™ Brand Ultra SL with shiplap edges maximizes the performance of the entire wall assembly.

Styrofoam™ Brand Ultra SL — when tested with LiquidArmor™ Flashing & Sealant over joints, penetrations and transitions — complies with ASTM E2178 and ASTM E2357 Assembly Air Barrier tests. It is also an approved air barrier assembly by the Air Barrier Association of America (ABAA) and passed the ASTM E331 Water Penetration Test.

Sustainable Solutions

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

Complete System

Styrofoam™ Brand Ultra SL Insulation is one component of the 4-in-1, continuous insulation, water, air, and vapor barrier solution known as the Ultra Air Barrier Wall System.

Available Sizes

Styrofoam™ Brand Ultra SL Insulation is available in a range of sizes, R-values and edge treatments, as shown in Table 1.

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

Nominal Board Thickness ¹ (in.)	R-Value ²	Board Size ³ (ft.)	Edge Treatment
2.125	12.0	4' x 8'	8' Shiplap
2.5	14.0	4' x 8'	8' Shiplap
3.0	16.8	4' x 8'	8' Shiplap

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 are expressed in ft² x h x °F/Btu. R-value determined by ASTM C518.

³ 4' x 10', 4' x 12' lengths available through special order.

* Styrofoam™ Brand Ultra SL is a former product of The Dow Chemical Company

** 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 2 for thermal resistance at other mean temperatures.

PROPERTIES

DuPont™ Styrofoam™ Brand Ultra SL Extruded Polystyrene (XPS) Foam Insulation exhibits physical properties as indicated in Table 1 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 1: Physical Properties (U.S.) of Styrofoam™ Brand Ultra SL XPS Foam Insulation

Test Method	Property	Typical Value				Units
ASTM C518	Thermal Resistance per in.	<u>1.75"</u> 10.0	<u>2.125"</u> 12.0	<u>2.5"</u> 14.0	<u>3.0"</u> 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>1.75"</u> 1.1	<u>2.125"</u> 0.8	<u>2.5"</u> 0.65	<u>3.0"</u> 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 C20 ³	Flexural Strength	50				psi, min.
UL 723	Surface Burning Characteristics ⁽³⁾ , 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.

³ 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 Ultra SL 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

When tested with LiquidArmor™ Flashing & Sealant or Great Stuff Pro™ Polyurethane Foam Sealant* around joint treatments, penetrations and transitions, Styrofoam™ Brand Ultra SL meets the following standards:

- ASTM E2357 Air Barrier Assembly Test
- ASTM E2178 Air Barrier Assembly Test

- ASTM E331 Water Penetration Test for Block and Steel Stud – Passed
- Approved as an air barrier assembly by the Air Barrier Association of America (ABAA)
- Meets NFPA requirements³

Notice

Styrofoam™ Brand Ultra SL 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

Contact your DuPont sales representative or local authorities for state/provincial and local building code requirements and related acceptances.

Warranty

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

* Consult label and Material Safety Data Sheet carefully before use.

** Meets NFPA 285 per Section 2603.5.5 of the building code. For specific assemblies, see code report ESR 2142.

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. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

- **DuPont™ Styrofoam™ Brand Ultra SL 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 1-866-583-2583 or contact your local building inspector.
- Do not leave **Styrofoam™ Brand Ultra SL** 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 Ultra SL** 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. Since the 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.
- 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.
- Follow all applicable federal, state, local and employer regulations.

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
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 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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