DuPont™ Styrofoam™ Brand Square Edge XPS Insulation

Water-Resistant Insulation for Attics, Foundations, Conventional Roofs and Crawl Spaces
U.S. HFC Regulation Compliant Formulation

OVERVIEW

Description

DuPont™ Styrofoam™ Brand Square Edge Extruded Polystyrene (XPS) Insulation is a grey, extruded polystyrene foam (XPS) insulation board that provides continuous insulation over steel stud or wood framing, in masonry unit cavity walls, conventional roofs and meets the needs of the commercial foundation and building floor slab needs. It can also be used for attics, foundations/slabs and crawl spaces in residential applications.

With more than 60 years of proven performance in wet environments, the closed-cell structure of **Styrofoam™ Brand Square Edge XPS Insulation** resists water pickup, enabling it to retain a high R-value over time – a necessary property in wet, below-grade commercial foundation and commercial roofing applications.

Styrofoam™ Brand Square Edge XPS Insulation is classified as a Type IV product when tested in accordance with ASTM C578 and provides a long term insulating performance of R-5 per inch.

Features and Benefits

- **Ease of Installation:** Easy to handle, cut using a utility knife or serrated blade, and install. Comes in a wide selection of sizes and thicknesses. Designed to help ensure energy efficiency and minimize on-site cutting and waste. Provides a secondary barrier against groundwater leakage. Helps protect foundation damp proofing and waterproofing, especially during backfilling. Minimizes the freeze-thaw cycling of the foundation, reducing the potential for cracking. Warms the foundation, reducing the potential for condensation. Will not corrode, rot or support mold growth.
- **High Performance Durability:** Provides a weather resistant barrier to enhance the building's resistance to air and moisture penetration. Resistant to degradation from soil components and will retain insulating performance characteristics after prolonged exposure to moisture. Has a minimum compressive strength of 25 psi and a flexural strength of 50 psi. Can be used in a number of applications like sheathing, foundation walls, masonry cavity walls, and more.

Sustainable Solutions

- Styrofoam™ Brand Square Edge XPS Insulation is reusable in many applications. It is hydrochlorofluorocarbon (HCFC) and hexabromocyclododecane (HBCD) free with zero ozone

Applications

- Styrofoam™ Brand Square Edge XPS Insulation is an ideal solution for the following applications:
- Under slabs
- Perimeter / foundation walls
- Cavity walls
- Precast walls
- Water-Resistive barrier (when joints are sealed)
- Conventional Roofs and single-ply membrane
- Protected Membrane Roofs (PMR)

Warranty

- Styrofoam™ Brand Insulation is backed by a 50-year thermal limited warranty on products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. For additional warranty information please visit building.dupont.com or contact your DuPont representative.

depletion potential and no-VOC (volatile organic compound) foaming agent technology. Styrofoam™ Brand insulation products produced in North America contain an average of 20% pre-consumer recycled content certified by UL Environment Inc.

Standard Sizes

Standard Sizes, R-Values and Edge Treatments for Styrofoam™ Brand Square Edge XPS Insulation

Thickness	Width	Length	R-Value	Edge Treatment
1 in.	4 ft.	8 ft.	5	Square Edge
1 1/2 in.	4 ft.	8 ft.	7.5	Square Edge
2 in.	4 ft.	8 ft.	10	Square Edge
2.5 in.	4 ft.	8 ft.	12.5	Square Edge
3 in.	4 ft.	8 ft.	15	Square Edge
4 in.	4 ft.	8 ft.	20	Square Edge

Note: Please be advised that additional sizes may be available. Availability of all sizes varies by region and is subject to change. For further information, please contact your local DuPont Sales Representative or call us at 1-866-338-7668.

TESTING AND CODE COMPLIANCE

Styrofoam™ Brand Square Edge XPS Insulation exhibits the properties and characteristics indicated in the table below 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.

TEST METHOD	TEST TITLE	PROPERTY	RESULTS
FIRE			
UL 723	Test Method for Surface Burning Characteristics of Building Materials	Surface Burning Characteristics	Flame Spread ≤ 25 Smoke Developed ≤ 450
THERMAL			
ASTM C518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	Thermal Resistance per inch @ 75°F mean temp[1]	5.0 ft^2 •h•°F/Btu, R-value, min.
ASTM D696	Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between −30°C and + 30°C with a Vitreous Silica Dilatometer	Coefficient of Linear Thermal Expansion	3.5 x 10-5 in/in•°F
ASTM D2126	Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging	Change in Dimensions	2.0% change, max.
STRENGTH			
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics	Compressive Strength[2]	25 psi, min.
ASTM C203	Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation	Flexural Strength	50 psi, min.
WATER			
ASTM C272	Standard Test Method for Water Absorption of Core Materials for Sandwich Construction	Water Absorption	0.1% by volume, max.
ASTM E96	Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials	Water Vapor Permeance[3]	1.5 perm, max.

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

[3]Based on 1" thickness.

CODE COMPLIANCE

Styrofoam™ Brand Square Edge XPS Insulation complies with the following codes:

CODE	DESCRIPTION
US Product Listings & Verifications	Factory Mutual Approved International Residential Code (IRC) and International Building Code (IBC); see ICC-ES ESR-4755 Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D-369 DrJ TER 1303-01 DrJ TER 1506-03 DrJ TER 2105-01
Regional Code Listings & Reports	California Std. Reg. #CA T1535

INSTALLATION

Preparation

- 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 Styrofoam™ Brand Square Edge XPS Insulation. Code-approved drainage systems should be installed. Ensure foundation drainage meets local codes.

Installation

- Apply caulk or mastic to the top of the board to prevent water infiltration behind the insulation.
- To complete the installation, parge the above-grade portions of Styrofoam™ Brand Square Edge XPS Insulation to protect from solar radiation.
- Use a polystyrene-compatible adhesive to hold the boards in place during backfilling.

Use Conditions

- Styrofoam™ Brand Square Edge XPS Insulation can be used in commercial roofing and be used against commercial interior walls and exterior foundation walls. Styrofoam™ Brand Square Edge Insulation can be used under the slab or over the deck or subfloor
- and is suitable for use in pervious, semi-pervious and practically impervious soils.

HANDLING

Warning

- **WARNING: For Professional Use Only** - Read and follow the entire Safety, Handling, and Storage section carefully before use. The information below is designed to protect the user and allow for safe use and handling of DuPont products.
  Due to the critical technical design aspects of many of its applications, DuPont recommends that qualified designers or consultants design your system. Follow all applicable federal, provincials, territories, local and employer regulations.

Precautionary Statements

- **CAUTION:** Styrofoam™ Brand XPS Insulation is combustible. 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.
- Fabrication methods which involve cutting into this product may release the blowing agent(s) remaining in the cells. Provide adequate ventilation to assure localized concentrations in release areas are maintained below the lower flammable limit.
- If small particles are generated during further processing, handling or by other means, may form

Product Limitations

- 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.

Cleanup & Disposal

- Dispose of any residual DuPont product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.
- Styrofoam™ Brand XPS Insulation is made of extruded polystyrene (XPS) and can be recycled at facilities that recycle XPS materials. Please check recycling facilities in your area to ensure they can recycle XPS Insulation.

Life & Storage

- In order to prevent buildup of combustible vapors, do not store large quantities of this product in unventilated spaces. Transport bulk shipments of this product in ventilated vehicles. During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources.
  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.

combustible dust concentrations in air. Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.

- Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Supplemental Information

- The product meets the definition of an article and is exempt from US TSCA and Canadian DSL inventory requirements.

  Compliant with Title 42 Chapter 85 Clean Air Act: Subchapter VII American Innovation and Manufacturing Act of 2020, and Section 612 US EPA Significant New Alternative Policy. Global Warming Potential <150. This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

  Compliant with CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999, SOR/2016-137, 64.5 (1) Plastic foam or rigid foam product. Global Warming Potential <150.

Handling & Use

- Before installation, substrate must be clean, dry, smooth and free from oil, grease, rust, frost and snow. Since dust would impair the performance of adhesives and finishes, dusty surfaces should be brushed off before products are applied.
- Use gloves to protect from mechanical injury.
- Do not leave Styrofoam™ Brand XPS 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 XPS to become faded and dusty. The surface degradation will have no measurable effect on the insulating value of the foam unless the deterioration is allowed to continue until foam thickness is lost.

For more information, visit us at
building.dupont.com
or call us at 1-833-338-7668

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