

DuPont™ Styrofoam™ Brand Tongue and Groove ST-100™ Insulation

Lightweight, Easy To Install Type IV XPS Foam Insulation

FEATURES/BENEFITS

Description

DuPont™ Styrofoam™ Brand Tongue and Groove ST-100™ Insulation* features tongue and groove edges on all four sides of 2' x 8' boards 1" thick or less and on the long edges of all other boards. The lightweight, moisture-resistant and thermally efficient Type IV extruded polystyrene foam insulation is suited for a wide range of residential and commercial construction applications.

Ease of Installation

Styrofoam™ Brand Tongue and Groove ST-100™ Insulation goes up quickly and easily with grooves on all four edges to lock into the next sheet and gives more coverage per board. It's easy to install with high compressive strength for above and below grade applications including:

- Exterior walls
- Interior walls
- Ceiling
- Exterior foundation walls
- Interior foundation walls
- Crawl space

Styrofoam™ Brand Tongue and Groove ST-100™ Insulation boards are easy to handle, cut using a utility knife or serrated blade, and install.

Available Sizes

- Width and length: 2' x 8' and 4' x 8'
- Thickness: .75", 1", 1.5", 2"

Not all product sizes are available in all parts of the country. Contact your local DuPont representative for details.

Sustainable Solutions

Styrofoam™ Brand Tongue and Groove Insulation boards are designed to ensure energy efficiency and minimize on-site cutting and waste. Styrofoam™ Brand Tongue and Groove ST-100™ Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential. Styrofoam™ Brand Tongue and Groove ST-100™ Insulation 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.

PROPERTIES

Review all instructions and Safe Handling document on [BeyondBlue.DuPont.com](https://www.beyondblue.dupont.com) before use.

TABLE 1: Physical Properties of Styrofoam™ Brand Tongue and Groove ST-100™ Insulation

Test Method	Property	Typical Value	Units
ASTM C518	Thermal Resistance ¹ per inch		
	@ 75°F mean temp.	5.0	ft ² ·h·°F/Btu, R-value**, min.
	@ 40°F mean temp.	5.4	
@ 25°F mean temp.	5.6		
ASTM D1621	Compressive Strength ²	25	psi, min.
ASTM C272	Water Absorption	0.1	% by volume, max.
ASTM E96	Water Vapor Permeance ³	1.5	perm, max.
-	Maximum Use Temperature	165	°F
ASTM D696	Coefficient of Linear Thermal Expansion	3.5 x 10 ⁻⁵	in/in·°F
ASTM C203	Flexural Strength	50	psi, min.
ASTM E84	Surface Burning Characteristics for both foam core and finished product	Class A	
	Flame Spread	25	
	Smoke Developed	<450	

* Styrofoam™ Brand Tongue and Groove ST-100™ Insulation is a former product of The Dow Chemical Company

** R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-value determined by ASTM C518.

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

² Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

³ Based on 1" thickness.

INSTALLATION

Use Conditions

DuPont™ Styrofoam™ Brand Tongue and Groove ST-100™ Insulation is suitable for use in pervious, semi-pervious and practically impervious soils.

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 Tongue and Groove ST-100™ Insulation. Code-approved drainage systems should be installed. Ensure foundation drainage meets local codes.

Application

Use a polystyrene-compatible adhesive to hold the boards in place during backfilling. 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 Tongue and Groove ST-100™ Insulation to protect from solar radiation.

TESTING

Applicable Standards

Styrofoam™ Brand Tongue and Groove ST-100™ Insulation meets ASTM C578, Type IV – 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
- 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
- C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions

Notice

Styrofoam™ Brand Tongue and Groove ST-100™ Insulation complies with the following codes:

- International Residential Code (IRC) and International Building Code (IBC) See ESR-2142
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- Calif. Std. Reg. # CA T064 Florida Building Code FL 3835
- Factory Mutual Approved – Subject to conditions of approval as a roof insulation when installed as described in the current edition of the FM Approval Guide

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

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. Warranties are available as described at building.dupont.com/warranties.

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 Tongue and Groove ST-100™ Insulation is combustible; protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the local building codes. For more information, consult MSDS, call DuPont at 1-866-583-2583 or contact your local building inspector.

Disposal

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

Shelf Life and Storage

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. Store above standing water.



**For more information visit us at
styrofoam.com
or call 1-866-583-2583**

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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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