



# STYROFOAM™ Brand Square Edge Insulation

## 1. PRODUCT NAME

STYROFOAM™ Brand Extruded Polystyrene Foam (XPS) Square Edge Insulation

## 2. MANUFACTURER

The Dow Chemical Company  
Dow Building Solutions  
200 Larkin Center,  
Midland, MI 48674  
1-866-583-BLUE (2583)  
Fax 1-989-832-4465

dowbuildingsolutions.com

## 3. PRODUCT DESCRIPTION

STYROFOAM™ Brand Square Edge Insulation is an extruded polystyrene foam insulation board that meets the needs of the commercial foundation and building floor slab market. This insulation can also be used for attics, foundations/slabs and crawl spaces in residential applications.

STYROFOAM™ Brand Square Edge Extruded Polystyrene Foam (XPS) Insulation has more than 60 years of proven performance in wet environments. The closed-cell structure of STYROFOAM™ Brand Square Edge Extruded Polystyrene Foam (XPS) Insulation resists water pickup, enabling it to retain a high R-value\* over time – a necessary property in wet, below-grade commercial foundation applications.

### Basic Use

STYROFOAM™ Brand Square Edge Extruded Polystyrene Foam (XPS) Insulation helps protect foundation damp-proofing and waterproofing, especially during backfilling. It also provides a secondary barrier against groundwater leakage. With STYROFOAM™ Brand Square Edge Insulation, freeze-thaw cycling of the foundation wall is minimized, reducing the potential for cracking. And a warmer foundation can reduce the potential for condensation.

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

### Sizes

Square Edge

Width and length: 2' x 8' and 4' x 8'

Thickness: .75", 1", 1.5", 2", 2.5", 3", 4"

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

## 4. TECHNICAL DATA

### Applicable Standards

STYROFOAM™ Brand Square Edge 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

### Code Compliances

STYROFOAM™ Brand Square Edge 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

TABLE 1: Physical Properties of STYROFOAM™ Brand Square Edge Insulation

Property And Test Method	Value
Thermal Resistance <sup>(1)</sup> per inch, ASTM C518, ft <sup>2</sup> •h•°F/Btu, R-value, min.	
@ 75°F mean temp.	5.0
@ 40°F mean temp.	5.4
@ 25°F mean temp.	5.6
Compressive Strength <sup>(2)</sup> ASTM D1621, psi, min.	25
Water Absorption, ASTM C272, % by volume, max.	0.3
Water Vapor Permeance <sup>(3)</sup> ASTM E96, perm, max.	1.5
Maximum Use Temperature, °F	165
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F	3.5 × 10 <sup>-5</sup>
Flexural Strength, ASTM C203, psi, min.	50

(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.

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

- 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 Dow sales representative or local authorities for state and local building code requirements and related acceptances.

#### Physical Properties

STYROFOAM™ Brand Square Edge Insulation exhibits the physical properties indicated in Table 1 when tested as represented.

#### Environmental Data

STYROFOAM™ Brand Square Edge Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone depletion potential. STYROFOAM™ Brand Square Edge 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.

#### Fire Information

STYROFOAM™ Brand Square Edge 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 Dow at 1-866-583-BLUE (2583) or contact your local building inspector.

#### 5. INSTALLATION

STYROFOAM™ Brand Square Edge Insulation boards are easy to handle, cut using a utility knife or serrated blade, and install. The square edge boards are designed to ensure energy efficiency and minimize on-site cutting and waste. 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 Square Edge Insulation to protect from solar radiation.

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 Insulation. Code approved drainage systems should be installed. Ensure foundation drainage meets local codes.

Visit [www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com) or contact a local Dow representative for more specific instructions.

#### 6. AVAILABILITY

STYROFOAM™ Brand Square Edge Insulation is distributed through an extensive network. For more information, contact your local Dow representative or call 1-800-232-2436.

#### 7. 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 <http://building.dow.com/na/en/tools/warranty.htm>

#### 8. MAINTENANCE

Not applicable.

#### 9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand Square Edge Insulation. Technical personnel are available to assist with any insulation project. For technical assistance, call 1-866-583-BLUE (2583).

#### 10. FILING SYSTEMS

[www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com)  
[www.sweets.com](http://www.sweets.com)



#### The Dow Chemical Company

Building Solutions  
200 Larkin • Midland, MI 48674

#### US

Technical Information: 1-866-583-BLUE (2583)  
Sales Information: 1-800-232-2436

[dowbuildingsolutions.com](http://dowbuildingsolutions.com)

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CAUTION: This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

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 Dow can give assurance that mold will not develop in any specific system.



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