



# STYROFOAM™ BRAND SQUARE EDGE INSULATION

## 1. PRODUCT NAME

STYROFOAM™ Brand Square Edge Insulation

## 2. MANUFACTURER

The Dow Chemical Company  
 Dow Building Solutions  
 200 Larkin  
 Midland, MI 48674  
 1-866-583-BLUE (2583)  
 Fax 1-989-832-1465  
 www.dowbuildingsolutions.com

## 3. PRODUCT DESCRIPTION

STYROFOAM™ Brand Square Edge Insulation is an extruded polystyrene 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 Insulation has more than 60 years of proven performance in wet environments. The closed-cell structure of STYROFOAM™ Brand Square Edge 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 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 – 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 COMPLIANCE

STYROFOAM™ Brand Square Edge Insulation complies with the following codes:

- International Residential Code (IRC) and International Building Code (IBC); see ICC-ES NES NER-699, BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- 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 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.

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.	0.1
Water Vapor Permeance <sup>(3)</sup> , ASTM E96, perm, max.	1.1
Maximum Use Temperature, °F	165
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F	3.5 x 10 <sup>-6</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.

**ENVIRONMENTAL DATA**

STYROFOAM™ Brand Square Edge Insulation is reusable in many applications.

**FIRE PROTECTION**

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**

Fifteen-year limited thermal warranty as described in Form No. 179-06331. Contact a local Dow representative for more information.

**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)

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

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

**IN THE U.S.**  
THE DOW CHEMICAL COMPANY  
200 Larkin  
Midland, MI 48674

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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, 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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