

# STYROFOAM™ BRAND SM EXTRUDED POLYSTYRENE FOAM INSULATION



## PRODUCT NAME

STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation

## MANUFACTURER

Dow Chemical Canada ULC  
Dow Building Solutions  
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1-866-583-BLUE (2583) (English)  
1-800-363-6210 (French)  
[www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com)

## PRODUCT DESCRIPTION

STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation is a multi-purpose extruded polystyrene board that helps to meet the needs of the commercial and residential foundation and slab market. The closed-cell structure of STYROFOAM™ Brand SM Insulation resists water absorption, enabling it to retain a high R-value (RSI)\* over time – a necessary property in below-grade residential foundation applications.

STYROFOAM™ Brand SM Insulation helps to protect foundation damp-proofing and waterproofing, especially during backfilling. It also provides a secondary barrier against groundwater leakage. With STYROFOAM™ Brand SM Insulation, the freeze-thaw cycling of the foundation wall is minimized, reducing the possibility of cracking. And a warmer foundation wall reduces the potential for condensation and adds to the thermal mass of the building.

## BASIC USE

STYROFOAM™ Brand SM Insulation can be used against almost any commercial or residential foundation wall in above- and below-grade applications.

## STANDARDS

- ASTM International
- ASTM C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
  - ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
  - ASTM E96 – Standard Test Methods for Water Vapour Transmission of Materials
  - ASTM D696 – Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30° and 30°C with a Vitreous Silica Dilatometer
  - ASTM D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
  - CAN/ULC S701 Type 4
  - CCMC 04888-L

## PHYSICAL PROPERTIES

STYROFOAM™ Brand SM Insulation exhibits physical properties as indicated in Table 2 when tested as represented.

## ENVIRONMENTAL DATA

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

STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation is reusable in many applications.

## FIRE INFORMATION

STYROFOAM™ Brand SM 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

**TABLE 1: SIZES, R-VALUES AND EDGE TREATMENTS FOR STYROFOAM™ BRAND SM EXTRUDED POLYSTYRENE FOAM INSULATION**

Standard Size (Imperial) <sup>1</sup>			
Board Thickness <sup>(1)</sup> , Inches (mm)	R-Value	Board Size (Inches)	Edge Treatment
1.0	5.0	24 x 96	Butt Edge & Shiplap
1.5	7.5	24 x 96	Butt Edge & Shiplap
2.0**	10.0	24 x 96	Butt Edge & Shiplap
2.4	12.0	24 x 96	Shiplap
2.5	12.5	24 x 96	Shiplap
3.0	15.0	24 x 96	Butt Edge & Shiplap
4.0	20.0	24 x 96	Butt Edge & Shiplap
Standard Size (Metric) <sup>1</sup>			
Board Thickness <sup>(1)</sup> , Millimeters	RSI	Board Size (mm)	Edge Treatment
50	1.73	600 x 2400	Butt Edge & Shiplap
75	2.61	600 x 2400	Butt Edge & Shiplap

(1) Not all product sizes are available in all regions.

\*\* Also available in 4x8 Shiplap

Additional sizes may be stocked on a regional basis. Contact your local Dow seller for additional information.

**TABLE 2: PHYSICAL PROPERTIES OF STYROFOAM™ BRAND SM EXTRUDED POLYSTYRENE FOAM INSULATION**

Property and Test Method	Value
Thermal Resistance per inch (25 mm), ASTM C518 @ 75°F (24°C) mean temp., ft <sup>2</sup> •h•°F/Btu (m <sup>2</sup> •°C/W) min., R-value (RSI)	5.0 (.88)
Compressive Strength <sup>(1)</sup> , ASTM D1621, psi (kPa), min.	30 (207)
Water Absorption, ASTM D2842, % by volume, max.	0.7
Water Vapour Permeance, ASTM E96, perm (ng/Pa•s•m <sup>2</sup> ), max. <sup>(2)</sup>	1.5 (90)
Maximum Use Temperature, °F (°C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F (mm/m•°C)	3.5 x 10 <sup>-5</sup> (6.3 x 10 <sup>-2</sup> )

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

(2) Based on 1" (25 mm) thickness.

information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector.

#### INSTALLATION

STYROFOAM™ Brand SM Insulation boards are easy to handle, cut and install. In particular, STYROFOAM™ Brand SM Insulation with shiplap edges is designed to ensure energy efficiency and minimize on-site cutting and waste. Use a polystyrene-compatible adhesive to hold boards in place during backfilling. Apply caulk or mastic to the top of boards to prevent water infiltration behind the insulation. To complete the installation, parge the above-grade portions of STYROFOAM™ Brand SM Insulation.

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 SM Insulation.

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

#### AVAILABILITY

STYROFOAM™ Brand SM Insulation is distributed through an extensive network. For more information, contact your local Dow representative or call:

- 1-800-232-2436 (English)
- 1-800-565-1255 (French)

#### TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation. Technical personnel are available to assist with any insulation project. For Technical assistance, call:  
1-866-583-BLUE (2583) (English)  
1-800-363-6210 (French)

#### FILING SYSTEMS

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

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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 in the U.S. or 1-519-339-3711 in Canada.

**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 mould formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.

#### IN CANADA

FOR TECHNICAL INFORMATION: 1-866-583-BLUE (2583) (English) • 1-800-363-6210 (French)

FOR SALES INFORMATION: 1-800-232-2436 (English) • 1-800-565-1255 (French)

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