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STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation

Product Name

STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation

Manufacturer

Dow Chemical Canada ULC
Dow Building Solutions
450-1st St. SW, Suite 2100
Calgary, AB T2P 5H1
1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

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 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 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 06525-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 Protection

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

Table 1: Sizes, R-values and edge treatments for STYROFOAM™ Brand SM Extruded Polystyrene Foam Insulation

Board Thickness(1), Inches (mm)	R-Value	Board Size, mm	Edge Treatment
1.0 (25.4)	5.0	600 x 2400	Butt Edge & Shiplap
1.5 (38.1)	7.5	600 x 2400	Butt Edge & Shiplap
2.0 (50.8)	10.0	600 x 2400	Butt Edge & Shiplap
2.165 (55)	10.0	600 x 2400	Butt Edge & Shiplap
2.4 (61)	12.0	600 x 2400	Shiplap
2.5 (63.5)	12.5	600 x 2400	Shiplap
3.0 (75)	15.0	600 x 2400	Butt Edge & Shiplap
3.5 (90)	18.0	600 x 2400	Butt Edge
4.0 (100)	20.0	600 x 2400	Butt Edge & Shiplap

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

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., $ft^2 \cdot h \cdot °F/Btu$ ($m^2 \cdot °C/W$) min., R-value (RSI)	5.0 (.88)
Compressive Strength(1), ASTM D1621, psi (kPa), min.	30 (207)
Water Absorption, ASTM D2842, % by volume, max.	0.7
Water Vapour Permeance, ASTM E96, perm ($ng/Pa \cdot s \cdot m^2$)	1.0 (57)
Maximum Use Temperature, ˚F (˚C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•˚F (mm/m•˚C)	3.5×10^{-5} (6.3×10^{-2})

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

**R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power.