



STYROFOAM™ Brand PERIMATE™

Extruded Polystyrene Foam Insulation

1. PRODUCT NAME

STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam 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

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

3. PRODUCT DESCRIPTION

Basic Use

STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam Insulation is a moisture-resistant, durable and lightweight foam board designed specifically for use on exterior foundation walls. STYROFOAM™ Brand PERIMATE™ Insulation features patented dovetail grooves on one face and shiplap edges on the long edges. When installed on the exterior of basement walls, it provides insulation, protects the waterproofing membrane and assists water drainage away from the foundation.

4. TECHNICAL DATA

Applicable Standards

STYROFOAM™ Brand PERIMATE™ 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
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- D4716 – Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
- CAN/ULC S701 Type 4

Physical Properties

STYROFOAM™ Brand PERIMATE™ Insulation exhibits the properties and characteristics indicated in Tables 3 and 4 when tested as represented.

Environmental Data

STYROFOAM™ Brand PERIMATE™ Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential. STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam Insulation is reusable in many applications.

Fire Protection

STYROFOAM™ Brand PERIMATE™ 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.

Code Compliances

STYROFOAM™ Brand PERIMATE™ Insulation complies with the following codes:

- International Residential Code (IRC) and International Building Code (IBC); see ICC-ES ESR 2142, BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- CCMC Evaluation Report 04888-L

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

TABLE 1: U.S. Sizes, R-Values and Edge Treatments for STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam Insulation

Nominal Board Thickness ⁽¹⁾ (in.)	R-Value ⁽²⁾	Board Size (ft.)	Edge Treatment
1.063*	5.0	2 x 8	Shiplap Edge (long edge) Square Edge (short edge)
2.125	10.0	2 x 8	Shiplap Edge (long edge) Square Edge (short edge)

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

⁽²⁾ R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values expressed in ft²•h•°F/Btu.

* Only in U.S.

TABLE 2: Canadian Sizes, R-Values and Edge Treatments for STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam Insulation

Nominal Board Thickness ⁽¹⁾ (mm)	R-Value ⁽²⁾ (RSI)	Board Size (ft.)	Edge Treatment
54	10.0 (1.76)	610 x 2400	Shiplap Edge (long edge) Square Edge (short edge)

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

⁽²⁾ R-value expressed in ft²•h•°F/Btu, RSI (R-value Système International) value expressed in m²•°C/W.

5. INSTALLATION

Boards of STYROFOAM™ Brand PERIMATE™ Insulation are easy to handle, cut and install. Contact a local Dow representative or access the literature library at www.dowbuildingsolutions.com for more specific instructions.

6. AVAILABILITY

STYROFOAM™ Brand PERIMATE™ Insulation is manufactured in several locations across North America and is distributed through an extensive network. For more information, call: 1-800-232-2436 (English) 1-800-565-1255 (French)

7. WARRANTY

In the United States, a 50-year thermal limited warranty is available on STYROFOAM™ Insulation products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Warranties are available as described at www.dbswarranties.com.

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand PERIMATE™ 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)

10. FILING SYSTEMS

www.dowbuildingsolutions.com

TABLE 3: Physical Properties (U.S.) of STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam Insulation

Property and Test Method	Value
Thermal Resistance ⁽¹⁾ per inch, ASTM C518 @ 75°F mean temp., ft ² •h•°F/Btu, R-value, min.	1.063" R-5.0; 2.125" R-10.0
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	30
Water Absorption, ASTM C272, % by volume, max.	0.3
Drainage Capacity, ASTM D4716 @ 1,200 psf, gradient 0.19, gal/min/ft	3.0
Water Vapor Permeance ⁽³⁾ , 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 ⁻⁵
Flexural Strength, ASTM C203, psi, min.	50

⁽¹⁾ Values are consistent with the criteria of ASTM C578. R means resistance to heat flow. The higher the R-value, the greater the insulating power.

⁽²⁾ Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first. Since STYROFOAM™ Brand Extruded Polystyrene Foam Insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation.

⁽³⁾ Based on 1" thickness.

TABLE 4: Physical Properties (Canadian) of STYROFOAM™ Brand PERIMATE™ Extruded Polystyrene Foam Insulation

Property and Test Method	Value
Thermal Resistance ⁽¹⁾ , ASTM C518 @ 75°F mean temp., ft ² •h•°F/Btu (m ² •°C/W), R-value (RSI), min.	2.125" R-10.0 (RSI 1.76)
Compressive Strength ⁽²⁾ , ASTM D1621, psi (kPa), min.	30 (210)
Water Absorption, ASTM D2842, % by volume, max.	0.7
Drainage Capacity, CCMC Technical Guide 02712, Class A, gal/hr/ft (m ³ /hr/m)	>51.3 (>0.72)
Water Vapour Permeance ⁽³⁾ , ASTM E96, perm (ng/Pa•s•m ²), max.	1.05 (60)
Maximum Use Temperature, °F (°C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F (mm/m•°C)	3.5 x 10 ⁻⁵ (6.3 x 10 ⁻²)
Flexural Strength, ASTM C203, psi (kPa), min.	50 (350)

⁽¹⁾ Values are consistent with criteria of ASTM C578. R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power.

⁽²⁾ Vertical compressive strength is measured at 10 percent deformation or at yield, whichever comes first. Since STYROFOAM™ Brand Extruded Polystyrene Foam Insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation.

⁽³⁾ Based on 1" (25 mm) thickness.



In the U.S.

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For Sales Information:

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Dow has manufactured STYROFOAM™ Brand Extruded Polystyrene Foam Insulation for use in construction and specialty applications for more than 60 years. Its dense closed-cell structure gives STYROFOAM™ Brand Extruded Polystyrene Foam Insulation excellent moisture resistance, long-term thermal performance and compressive strength. STYROFOAM™ Brand Extruded Polystyrene Foam Insulation is reusable in many applications.

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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.

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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