



## 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

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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)

### 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

#### CODE COMPLIANCES

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

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

- CAN/ULC S701, Type 4
- CCMC 12826-R

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

#### 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.

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

NOMINAL BOARD THICKNESS <sup>(1)</sup> , IN	R-VALUE <sup>(2)</sup>	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 ft<sup>2</sup>•h•°F/Btu.

**TABLE 2: CANADIAN SIZES, R-VALUES (RSI) AND EDGE TREATMENTS FOR STYROFOAM™ BRAND PERIMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION**

NOMINAL BOARD THICKNESS <sup>(1)</sup> , IN (MM)	R-VALUE <sup>(2)</sup> (RSI)	BOARD SIZE, MM	EDGE TREATMENT
2.125 (54)	10.0 (1.76)	600 x 2400	Shiplap Edge (long edge) Square Edge (short edge)
2.5 (64) (Residential)	12.0 (2.11)	600 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 ft<sup>2</sup>•h•°F/Btu, RSI (R-value Système International) value expressed in m<sup>2</sup>•°C/W.

## 5. INSTALLATION

Boards of STYROFOAM™ Brand PERIMATE™ Insulation are easy to handle, cut and install. Visit [www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com) or contact a local Dow representative 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

A limited warranty is available in the United States that covers the thermal resistance retention of STYROFOAM™ Brand PERIMATE™ Insulation. Refer to the Dow warranty certificate for complete details.

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

**TABLE 3: TYPICAL PHYSICAL PROPERTIES (U.S.) OF STYROFOAM™ BRAND PERIMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION**

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance <sup>(1)</sup> per in., ASTM C518 @ 75°F mean temp., ft <sup>2</sup> •h•°F/Btu, R-value, min.	1.063" R-5.0 2.125" R-10.0
Compressive Strength <sup>(2)</sup> , 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 <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 x 10 <sup>-5</sup>
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: TYPICAL PHYSICAL PROPERTIES (CANADA) OF STYROFOAM™ BRAND PERIMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION**

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance <sup>(1)</sup> , ASTM C518 @ 75°F mean temp., ft <sup>2</sup> •h•°F/Btu (m <sup>2</sup> •°C/W), R-value (RSI), min.	2.125" R-10.0 (RSI 1.76) 2.5" R-12.0 (RSI 2.11)
Compressive Strength <sup>(2)</sup> , 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 <sup>3</sup> /hr/m)	>58 (>0.72)
Water Vapour Permeance <sup>(3)</sup> , ASTM E96, perm (ng/Pa•s•m <sup>2</sup> ), max.	1.0 (58)
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> )
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.

### www.dowbuildingsolutions.com

**Technical Information**  
 1-866-583-BLUE (2583) (English)  
 1-800-363-6210 (French)

**Sales Information**  
 1-800-232-2436 (English)  
 1-800-565-1255 (French)

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

