



# 1 PRODUCT NAME

## STYROFOAM™ CAVITYMATE™ Extruded Polystyrene Insulation

### 2 Manufacturer

The Dow Chemical Company  
Building & Construction  
200 Larkin  
Midland, MI 48674  
1-866-583-BLUE (2583)  
Fax 1-989-832-1465  
www.dowstyrofoam.com/architect  
www.dowstyrofoam.ca/4architects

### 3 Product Description

#### BASIC USE

STYROFOAM™ CAVITYMATE™ extruded polystyrene insulation is a moisture-resistant, durable and lightweight foam board designed specifically for use in wet cavity wall environments. Sized to fit snugly between wall ties, STYROFOAM CAVITYMATE insulation saves time and money on the job site. Its closed-cell structure provides superior long-term thermal performance and moisture control.

#### SIZES

##### IN THE U.S.:

##### Butt Edge

##### Width and length:

16" x 96"

##### Thickness:

1.0", 1.5", 2.0", 3.0"

##### IN CANADA:

##### Butt Edge

##### Width and length:

400 mm x 2,400 mm

##### Thickness:

40 mm, 50 mm, 61 mm, 75 mm

##### Width and length:

600 mm x 2,400 mm

##### Thickness:

75 mm

##### Shi lap Edge

##### Width and length:

600 mm x 2,400 mm

##### Thickness:

50 mm, 75 mm

Not all products are available in all areas. Additional product sizes are available by custom order. Consult your Dow representative about other sizes and lead-time requirements.

### 4 Technical Data

#### APPLICABLE STANDARDS

STYROFOAM™ CAVITYMATE™ insulation meets ASTM C578 – Standard Specification for Rigid Cellular Polystyrene Thermal Insulation, which includes:

- 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
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- CAN/ULC S701 Type 3

#### CODE COMPLIANCE

STYROFOAM™ CAVITYMATE™ insulation complies with the following codes:

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

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

STYROFOAM CAVITYMATE Extruded Polystyrene Insulation

**PHYSICAL/CHEMICAL PROPERTIES**

STYROFOAM™ CAVITYMATE™ insulation exhibits the properties and characteristics indicated in Tables 1 and 2 when tested as represented.

For chemical resistance properties of STYROFOAM CAVITYMATE insulation, see Table 3.

**ENVIRONMENTAL DATA**

STYROFOAM™ CAVITYMATE™ insulation is manufactured with HCFC blowing agents, which have 94 percent less ozone depletion potential than standard CFC blowing agents.

STYROFOAM extruded polystyrene insulation products are reusable in many applications and can be recycled.

**FIRE PROTECTION**

STYROFOAM™ CAVITYMATE™ insulation is combustible; protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector.

**U.S. PROPERTY CHART**

TABLE 1

| Physical Properties of STYROFOAM™ CAVITYMATE™ 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 | 5.0                    |
| Compressive Strength <sup>(2)</sup> , ASTM D1621, psi, min.   | 15                     |
| 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>-5</sup> |
| Flexural Strength, ASTM C203, psi, min.   | 40                     |

- (1) Values are consistent with the criteria of ASTM C578 and the requirements of the FTC R-value rule (16 CFR Part 460). R means resistance to heat flow. The higher the R-value, the greater the insulating power. Ask your seller for the fact sheet on R-value.
- (2) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first. Since STYROFOAM extruded polystyrene insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested.
- (3) Based on 1" thickness.

**CANADA PROPERTY CHART**

TABLE 2

| Physical Properties of STYROFOAM™ CAVITYMATE™ Insulation   |  |
|--|--|
| Property and Test  | Value  |
| Thermal resistance <sup>(1)</sup> per in. (25 mm), ASTM C518, 24°C mean temp., ft <sup>2</sup> •h•°F/Btu (m <sup>2</sup> •°C/W), R-value (RSI), min. | 5.0 (.87)  |
| Compressive Strength <sup>(2)</sup> , ASTM D1621, psi (kPa), min.  | 25 (172)   |
| Water Absorption, ASTM D2842, % by volume, max.  | <0.7   |
| Water Vapour Permeance <sup>(3)</sup> , ASTM E96, perm (ng/Pa•s•m <sup>2</sup> ), max.   | 1.5 (90)   |
| Maximum Use Temperature, °F (°C)   | 165 (74)   |
| Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F (mm/mm•°C)  | 3.5 x 10 <sup>-5</sup> (6.3 x 10 <sup>-2</sup> ) |
| Flexural Strength, ASTM C203, psi (kPa) min.   | 43 (297)   |

- (1) Values are consistent with criteria of ASTM C578.
- (2) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever comes first. Since STYROFOAM extruded polystyrene insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested.
- (3) Based on 1" (25 mm) thickness.

TABLE 3

| Chemical Resistance <sup>(1)</sup> of STYROFOAM™ CAVITYMATE™ Insulation |                 |
|---|-----------------|
| Acid, inorganic, strong   | Excellent       |
| Acid, inorganic, weak   | Excellent       |
| Acid, organic, strong   | Good            |
| Acid, organic, weak   | Excellent       |
| Bases   | Excellent       |
| Alcohols, including isopropyl alcohol                                   | Excellent       |
| Methyl ethyl ketone   | Not recommended |
| Polyglycols, including propylene glycol                                 | Excellent       |
| Hydrocarbons  | Not recommended |
| Salts   | Excellent       |
| Insecticides  | Not recommended |
| Kerosene  | Poor            |
| Mineral oil USP   | Excellent       |
| Naphtha (VMP)   | Not recommended |
| Turpentine  | Not recommended |
| Beer  | Good            |
| Gasoline  | Not recommended |
| Fruit juices  | Good            |

- (1) Explanation of Ratings:  
 Excellent = The plastic was unaffected for the duration of the test.  
 Good = A very slight clouding or discoloration of the plastic.  
 Poor = Considerable change in plastic during exposure.  
 Not recommended = Severe attack of the plastic. Became soft and unusable after a few hours of exposure.

NOTE: This table should be used as a guide only. For design purposes, specific test data on the intended application may be needed.

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## 5 Installation

Boards of STYROFOAM™ CAVITYMATE™ insulation are easy to handle, cut and install. Contact a local Dow representative or access the literature library at [www.dowstyrofoam.com/architect](http://www.dowstyrofoam.com/architect) or [www.dowstyrofoam.ca/4architects](http://www.dowstyrofoam.ca/4architects) for more specific instructions.

## 6 Availability

STYROFOAM™ CAVITYMATE™ insulation is manufactured in several locations across North America and is distributed through an extensive network. For more information, call 1-800-232-2436.

## 7 Warranty

A limited warranty is available in the United States that covers the thermal resistance retention of STYROFOAM™ CAVITYMATE™ 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™ CAVITYMATE™ insulation. Technical personnel are available to assist with any insulation project. For technical assistance, call 1-866-583-BLUE (2583).

## 10 Filing Systems

- [www.dowstyrofoam.com/architect](http://www.dowstyrofoam.com/architect)
- [www.dowstyrofoam.ca/4architects](http://www.dowstyrofoam.ca/4architects)
- [www.sweets.com](http://www.sweets.com)

**IN THE U.S.:**

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

**THE DOW CHEMICAL COMPANY**

- Building & Construction • 200 Larkin • Midland, MI 48674
- [www.dowstyrofoam.com/architect](http://www.dowstyrofoam.com/architect)**

**IN CANADA:**

- For Technical Information (English): **1-866-583-BLUE (2583)**; (French): **1-800-363-6210**
- For Sales Information (English): **1-800-232-2436**; (French): **1-800-565-1255**

**DOW CHEMICAL CANADA INC.**

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COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS or call Dow at 1-866-583-BLUE (2583). 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 insulation 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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