



STYROFOAM™ BRAND CAVITYMATE™ SC EXTRUDED POLYSTYRENE FOAM INSULATION

1. PRODUCT NAME

STYROFOAM™ Brand
CAVITYMATE™ SC 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 CAVITYMATE™ SC Extruded Polystyrene Foam Insulation is an extruded polystyrene foam rigid board insulation with shiplap edges. It is designed for use as an exterior sheathing on steel stud walls in new commercial and residential high-rise buildings. It is also ideally suited for upgrading existing structures.

4. TECHNICAL DATA

APPLICABLE STANDARDS

STYROFOAM™ Brand CAVITYMATE™ SC Insulation meets ASTM C578 Type X – Standard Specification for Rigid Cellular Polystyrene 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
- C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
- 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
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- CAN/ULC S701 Type 2

CODE COMPLIANCE

STYROFOAM™ Brand CAVITYMATE™ SC Insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES ESR-2142
- BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- CCMC listing 12084-L

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

PHYSICAL PROPERTIES

STYROFOAM™ Brand
CAVITYMATE™ SC Insulation

exhibits the properties and characteristics indicated in Tables 3 and 4 when tested as represented.

Prolonged exposure to ultraviolet radiation may cause the surface of STYROFOAM™ Brand CAVITYMATE™ SC Insulation to become faded and dusty. A light-colored, opaque protective covering should be used if excessive solar exposure is expected. The surface degradation will have no measurable effect on the insulating value of the plastic foam unless the deterioration is allowed to continue until actual foam thickness is lost. Since the dust would impair the performance of adhesives and finishes, the dusty surface should be brushed off before these products are applied.

ENVIRONMENTAL DATA

STYROFOAM™ Brand CAVITYMATE™ SC Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential. STYROFOAM™ Brand CAVITYMATE™ SC Insulation is reusable in many applications.

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

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN.	R-VALUE ⁽²⁾	BOARD SIZE, IN	EDGE TREATMENT
1.0	5.0	48 x 96	Shiplap Edge
1.5	7.5	48 x 96	Shiplap Edge
2.0	10.0	48 x 96	Shiplap Edge
2.5	12.5	48 x 96	Shiplap Edge

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

(2) Aged R-value at 1" of cured foam @ 75°F mean temperature. R-value expressed in ft²•h•°F/Btu. R-value determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).

TABLE 2: CANADIAN SIZES, R-VALUES AND EDGE TREATMENTS STYROFOAM™ BRAND CAVITYMATE™ SC EXTRUDED POLYSTYRENE FOAM INSULATION

NOMINAL BOARD THICKNESS ⁽¹⁾ , MM	R-VALUE	BOARD SIZE, MM	EDGE TREATMENT
25	5.0	600 x 2400	Shiplap Edge
38	7.5	600 x 2400	Shiplap Edge
50	10.0	600 x 2400	Shiplap Edge
75	15.0	600 x 2400	Shiplap Edge
25	5.0	1200 x 2400	Shiplap Edge
38	7.5	1200 x 2400	Shiplap Edge
50	10.0	1200 x 2400	Shiplap Edge

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

FIRE PROTECTION

STYROFOAM™ Brand CAVITYMATE™ SC 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.

5. INSTALLATION

Boards of STYROFOAM™ Brand CAVITYMATE™ SC 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 CAVITYMATE™ SC 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 <http://building.dow.com/na/en/tools/warranty.htm>

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand CAVITYMATE™ SC 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
- www.sweets.com

TABLE 3: PHYSICAL PROPERTIES (U.S.) OF STYROFOAM™ BRAND CAVITYMATE™ SC EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. ASTM C518 @ 75°F mean temp., ft ² •h•°F/Btu, R-value ⁽¹⁾ , min	5.0
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	15
Water Absorption, ASTM C272, % by volume, max.	0.3
Water Vapor Permeance ⁽³⁾ , 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 ⁻⁵

- (1) Values are consistent with the criteria of ASTM C578 and 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.
 (2) Vertical compressive strength is measured at 10 percent deformation or 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. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested. Contact Dow for design recommendations.
 (3) Based on 1" thickness.

TABLE 4: PHYSICAL PROPERTIES (CANADIAN) OF STYROFOAM™ BRAND CAVITYMATE™ SC EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. (25 mm), ASTM C518 @ 75°F (24°C) mean temp., ft ² •h•°F/Btu (m ² •°C/W), R-value (RSI) ⁽¹⁾ , min.	5.0 (0.88)
Compressive Strength ⁽²⁾ , ASTM D1621, psi (kPa), min.	16 (110)
Water Absorption, ASTM D2842, % by volume, max.	1.9
Water Vapour Permeance ⁽³⁾ , ASTM E96, perm (ng/Pa•s•m ²), max.	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 ⁻⁵ (6.3 x 10 ⁻²)

- (1) Values are consistent with the criteria of ASTM C578.
 (2) Vertical compressive strength is measured at 10 percent deformation or 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. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested. Contact Dow for design recommendations.
 (3) Based on 1" (25 mm) thickness.

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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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 THE DOW CHEMICAL COMPANY
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IN CANADA
 DOW CHEMICAL CANADA ULC
 450 – 1st St. SW . Suite 2100
 Calgary, AB T2P 5H1

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.

NOTICE: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries or regions. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO EXPRESS WARRANTIES ARE GIVEN EXCEPT FOR ANY APPLICABLE WRITTEN WARRANTIES SPECIFICALLY PROVIDED BY DOW. ALL IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

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.

