



STYROFOAM™ BRAND CAVITYMATE™ ULTRA EXTRUDED POLYSTYRENE FOAM INSULATION

1. PRODUCT NAME

STYROFOAM™ Brand
CAVITYMATE™ Ultra 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™ Ultra Insulation is a moisture-resistant, durable and lightweight extruded polystyrene foam board specifically designed for use in wet cavity wall environments. Manufactured with a patented carbon black technology, STYROFOAM™ Brand CAVITYMATE™ Ultra Insulation features an R-value of 5.6 per inch (RSI of 0.97 per 25 mm)*, the highest of all STYROFOAM™ Brand Extruded Polystyrene Foam Insulation products. Its closed-cell structure provides advanced long-term thermal performance and moisture control.

Sized to fit snugly between wall ties, STYROFOAM™ Brand CAVITYMATE™ Ultra Insulation can save time and money on the job site.

4. TECHNICAL DATA

APPLICABLE STANDARDS

STYROFOAM™ Brand CAVITYMATE™ Ultra Insulation meets ASTM C578 Type IV and CAN/ULC S-701-05 Type 3 – 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
- 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™ Brand CAVITYMATE™ Ultra Insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES NER-699
- BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- National Building Code of Canada

- CCMC – Evaluation Listing #12793-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™ Ultra 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™ Ultra 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™ Ultra Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion

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

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN	R-VALUE ⁽²⁾	BOARD SIZE, IN	EDGE TREATMENT
1.75	10.0	16" x 96"	Square Edge
2.13	12.0	16" x 96"	Square 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 are expressed in ft²•h•°F/Btu. R-value determined by ASTM C518.

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

NOMINAL BOARD THICKNESS ⁽¹⁾ , MM	R-VALUE ⁽²⁾	BOARD SIZE, MM	EDGE TREATMENT
55	12.0	400 x 2400	Butt Edge
75	16.5	400 x 2400	Butt Edge
91	20.0	400 x 2400	Butt Edge
75	16.5	600 x 2400	Butt Edge

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

(2) R means resistance to heat flow. The higher the R-value or RSI (R-Value Système International), the greater the insulating power. R-values are expressed in ft²•h•°F/Btu. RSI values are expressed in m²•C/W. R-value determined by ASTM C518.

potential. STYROFOAM™ Brand CAVITYMATE™ Extruded Polystyrene Foam Insulation is reusable in many applications.

FIRE PROTECTION

STYROFOAM™ Brand CAVITYMATE™ Ultra 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™ Ultra 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™ Ultra 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 30-year limited thermal warranty is available. 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 CAVITYMATE™ Ultra 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™ ULTRA EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE	
Thermal Resistance per in. ASTM C518, ft ² •h•°F/Btu, R-value ⁽¹⁾ , min. @ 75°F mean temp. @ 40°F mean temp. @ 25°F mean temp.	1.75"	2.125"
	10.0	12.0
	10.8	13.0
	11.2	13.4
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	25	
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	
Flexural Strength, ASTM C203, psi, min.	50	
Flame Spread ⁽⁴⁾ , ASTM E84	10	
Smoke Developed, ASTM E84	160	

- (1) Values are consistent with the criteria of ASTM C578 and the FTC R-value rule (16 CFR Part 460).
(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.
(4) This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. (25 mm), ASTM C518, ft ² •h•°F/Btu (m ² •°C/W), R-value (RSI) ⁽¹⁾ , min. @ 75°F (24°C) mean temp. @ 40°F (4°C) mean temp. @ 25°F (-4°C) mean temp.	5.6 (0.97)
	6.0 (1.04)
	6.3 (1.09)
Compressive Strength ⁽²⁾ , ASTM D1621, psi (kPa), min.	25 (170)
Water Absorption, ASTM D2842, % by volume, max.	0.7
Water Vapour Permeance ⁽³⁾ , ASTM E96, perm (ng/Pa•s•m ²), max.	1.5 (90)
Maximum Use Temperature, °F (°C)	165 (73.8)
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.	43.5 (300)

- (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)

IN THE U.S.
THE DOW CHEMICAL COMPANY
200 Larkin
Midland, MI 48674

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. Dow assumes no obligation or liability for the information in this document. 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.

