STYROFOAM™ Brand ROOFMATE™
Extruded Polystyrene Foam Insulation

1. PRODUCT NAME
STYROFOAM™ Brand ROOFMATE™
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 ROOFMATE™
Extruded Polystyrene Foam
Insulation is designed for installation
above waterproofing or roofing
membranes in protected membrane
roof (PMR) applications.

STYROFOAM™ Brand
ROOFMATE™ Insulation helps the
roof membrane maintain a steady
temperature, minimizing the harmful
effects of freeze-thaw cycles,
weathering and physical damage
during and after construction.

4. TECHNICAL DATA

APPLICABLE STANDARDS
STYROFOAM™ Brand ROOFMATE™
Insulation meets ASTM C578-01,
Type VI – 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
• D2842 – Standard Test Method
for Water Absorption 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
• E84 – Standard Test Method for
Surface Burning Characteristics
of Building Materials
• D696 – Standard Test Method
for 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
• CAN/ULC S701, Type 4 –
Standard for Thermal Insulation,
Polystyrene Boards

CODE COMPLIANCE
STYROFOAM™ Brand ROOFMATE™
Insulation complies with the
following codes:
• Meets IBC/IRC requirements for
foam plastic insulation; see
ICC-ES ESR 2142
• ICBO-ES ER-2257
• BOCA-ES RR 21-02
• Underwriters Laboratories, Inc.
(UL) Classified, see Classification
Certificate D369
• Factory Mutual Approved –
Subject to conditions of approval
as a roof insulation when installed
as described in the current edition
of FM Approval Guide
• National Building Code of Canada
• CCMC – Evaluation Listing
#04888-L

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

PHYSICAL PROPERTIES
STYROFOAM™ Brand ROOFMATE™
Insulation exhibits physical
properties as indicated in Tables 3
and 4 when tested as represented.

ENVIRONMENTAL DATA
STYROFOAM™ Brand ROOFMATE™
Insulation is hydrochlorofluorocarbon
(HCFC) free with zero ozone-
depletion potential.

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

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

<table>
<thead>
<tr>
<th>NOMINAL BOARD THICKNESS(1), IN.</th>
<th>R-VALUE(2)</th>
<th>BOARD SIZE, FT</th>
<th>EDGE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>5.0</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
<tr>
<td>1.5</td>
<td>7.5</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
<tr>
<td>2.0</td>
<td>10.0</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
<tr>
<td>3.0</td>
<td>15.0</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
<tr>
<td>3.5</td>
<td>17.5</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
<tr>
<td>4.0</td>
<td>20.0</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
</tbody>
</table>

(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. RSI values are expressed in m²°C/W. R-value determined by ASTM C518.

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

<table>
<thead>
<tr>
<th>NOMINAL BOARD THICKNESS(1), IN.</th>
<th>R-VALUE(2)</th>
<th>BOARD SIZE, MM</th>
<th>EDGE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>5.0 (.88)</td>
<td>2 x 8</td>
<td>Butt Edge</td>
</tr>
<tr>
<td>1.5</td>
<td>7.5 (1.32)</td>
<td>2 x 8</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>2.0</td>
<td>10.0 (1.76)</td>
<td>2 x 8</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>3.0</td>
<td>15.0 (2.64)</td>
<td>2 x 8</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>4.0</td>
<td>20.0 (3.52)</td>
<td>2 x 8</td>
<td>Shiplap Edge</td>
</tr>
</tbody>
</table>

(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 Internationale), 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.
FIRE INFORMATION
STYROFOAM™ Brand ROOFMATE™ 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
STYROFOAM™ Brand ROOFMATE™ Insulation is strong, yet lightweight and easy to fabricate into various sizes and shapes to meet specific design needs. Because of the critical technical design aspects of many of its applications, Dow recommends that qualified designers or consultants design your system.

6. AVAILABILITY
STYROFOAM™ Brand ROOFMATE™ Insulation is distributed through an extensive network of roofing distributors. For product availability or for the name of your local Dow sales representative, 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 ROOFMATE™ 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 ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

<table>
<thead>
<tr>
<th>PROPERTY AND TEST METHOD</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Resistance per in. ASTM C518 @ 75°F mean temp., ft²•°F/Btu, R-value(1), min.</td>
<td>5.0 (.88)</td>
</tr>
<tr>
<td>Compressive Strength(2), ASTM D1621, psi, min.</td>
<td>40</td>
</tr>
<tr>
<td>Water Absorption, ASTM C272, % by volume, max.</td>
<td>0.3</td>
</tr>
<tr>
<td>Water Vapor Permeance(3), ASTM E96, perm.</td>
<td>1.0</td>
</tr>
<tr>
<td>Maximum Use Temperature, °F</td>
<td>165</td>
</tr>
<tr>
<td>Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F</td>
<td>3.5 x 10⁻³</td>
</tr>
<tr>
<td>Flexural Strength, ASTM C203, psi, min.</td>
<td>60</td>
</tr>
<tr>
<td>Dimensional Stability, ASTM D2126, % linear change, max.</td>
<td>2.0</td>
</tr>
<tr>
<td>Flame Spread(4), ASTM E84</td>
<td>15</td>
</tr>
<tr>
<td>Smoke Developed, ASTM E84</td>
<td>165</td>
</tr>
</tbody>
</table>

(1) 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.
(3) Based on 1” thickness.
(4) These numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

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

<table>
<thead>
<tr>
<th>PROPERTY AND TEST METHOD</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Resistance per in. (25 mm), ASTM C518 @ 75°F (24°C) mean temp., ft²•°C/Btu (m²•°C/W), R-value (RSI)(1), min.</td>
<td>5.0 (.88)</td>
</tr>
<tr>
<td>Compressive Strength(2), ASTM D1621, psi (kPa), min.</td>
<td>35 (240)</td>
</tr>
<tr>
<td>Water Absorption, ASTM D2842, % by volume, max.</td>
<td>0.7</td>
</tr>
<tr>
<td>Water Vapour Permeance(3), ASTM E96, perm (ng/Pa•s•m²), max.</td>
<td>1.0 (57)</td>
</tr>
<tr>
<td>Maximum Use Temperature, °F (°C)</td>
<td>165 (74)</td>
</tr>
<tr>
<td>Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°C (mm/mm•°C)</td>
<td>3.5 x 10⁻³ (6.3 x 10⁻³)</td>
</tr>
<tr>
<td>Flexural Strength, ASTM C203, psi (kPa), min.</td>
<td>50 (350)</td>
</tr>
<tr>
<td>Dimensional Stability, ASTM D2126, at 158°F (70°C) ambient humidity, % linear change, max.</td>
<td>1.5</td>
</tr>
</tbody>
</table>

(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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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.