STYROFOAM™ Brand DECKMATE™ Extruded Polystyrene Foam Insulation

1. PRODUCT NAME
STYROFOAM™ Brand DECKMATE™ 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
www.dowbuildingsolutions.com

3. PRODUCT DESCRIPTION
STYROFOAM™ Brand DECKMATE™ Insulation is an extruded polystyrene foam insulation with a planed surface. It has excellent insulating characteristics, high resistance to water and water vapor, excellent freeze-thaw resistance, exceptional compressive strength and long-term durability.

Basic Use
STYROFOAM™ Brand DECKMATE™ Insulation is designed for use in fully adhered conventional low-slope roof applications. Available in flat and tapered board stock (see Table 3 for slopes of tapered panels), the rigid foam insulation boards can be installed directly on structural steel decks beneath a non-bituminous sheet membrane, eliminating the need for a thermal barrier.

4. TECHNICAL DATA

Applicable Standards
STYROFOAM™ Brand DECKMATE™ Insulation meets CAN/ULC S701, Type 3 – Standard Specification for Rigid Cellular Polystyrene Thermal Insulation, which includes:

- 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

Physical Properties
STYROFOAM™ Brand DECKMATE™ Insulation exhibits physical properties as indicated in Table 2 when tested as represented.

Exposure to ultraviolet radiation in sunlight for several weeks will cause the surface of STYROFOAM™ Brand DECKMATE™ Insulation to become yellow and dusty. A lightcolored, 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 DECKMATE™ Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential.

STYROFOAM™ Brand DECKMATE™ Insulation is reusable in many applications.

### TABLE 1: Sizes, R-Values and Edge Treatments for STYROFOAM™ Brand DECKMATE™ Extruded Polystyrene Foam Insulation

<table>
<thead>
<tr>
<th>Nominal Board Thickness (in.)</th>
<th>R-Value</th>
<th>Board Size (ft.)</th>
<th>Edge Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 (25)</td>
<td>5.0</td>
<td>24 x 96</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>1.5 (40)</td>
<td>7.5</td>
<td>24 x 96</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>2.0 (50)</td>
<td>10.0</td>
<td>24 x 96</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>2.5 (65)</td>
<td>12.5</td>
<td>24 x 96</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>3.0 (75)</td>
<td>15.5</td>
<td>24 x 96</td>
<td>Shiplap Edge</td>
</tr>
<tr>
<td>4.0 (100)</td>
<td>20.0</td>
<td>24 x 96</td>
<td>Shiplap Edge</td>
</tr>
</tbody>
</table>

Not all product sizes are available in all regions.
**Fire Protection**

STYROFOAM™ Brand DECKMATE™ Foam 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.

**Code Compliance**

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

- 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 #12085-L

**5. INSTALLATION**

STYROFOAM™ Brand DECKMATE™ Insulation can be used over any substrate in new construction or thermal upgrading of existing roofing when reroofing is required. Roof substrate must be clean, dry, smooth and free from oil, grease, rust, frost and snow.

The roof system must be designed to meet all applicable building codes. Flute spanability – maximum flute spanability is 1-3/4” for 1” product, 3” for 1-1/2” product, 4-3/8” for 2” product or greater.

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**TABLE 2: Physical Properties of STYROFOAM™ Brand DECKMATE™ 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•h•°F/Btu (m²•°C/W), R-value (RSI)</td>
<td>5.0 (0.88)</td>
</tr>
<tr>
<td>Compressive Strength(1), ASTM D1621, psi (kPa), min.</td>
<td>16 (116)</td>
</tr>
<tr>
<td>Water Absorption, ASTM D2842, % by volume, max.</td>
<td>0.9</td>
</tr>
<tr>
<td>Water Absorption, ASTM C272, % by volume, max.</td>
<td>0.3</td>
</tr>
<tr>
<td>Water Vapour Permeance(2), ASTM E96, perm (mg/Pa•s•m²), max.</td>
<td>1.5 (90)</td>
</tr>
<tr>
<td>Maximum Use Temperature, °F (°C)</td>
<td>165 (74)</td>
</tr>
<tr>
<td>Coefficient of Linear Thermal Expansion, in/in•°F (mm/m•°C)</td>
<td>3.5 x 10⁻⁵ (6.3 x 10⁻⁵)</td>
</tr>
<tr>
<td>Flexural Strength, ASTM C203, psi (kPa) min.</td>
<td>35 (244)</td>
</tr>
<tr>
<td>Dimensional Stability(3), ASTM D2126, % linear change, max.</td>
<td>1.5</td>
</tr>
</tbody>
</table>

(1) 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 occurs first.
(3) Based on 1” (25 mm) thickness.

Boards of STYROFOAM™ Brand DECKMATE™ Insulation are easy to handle, cut and install. For more specific instructions, contact a local Dow representative or access the literature library: www.dowbuildingsolutions.com

**6. AVAILABILITY**

STYROFOAM™ Brand DECKMATE™ Insulation is manufactured in several locations across North America and is distributed through an extensive network of roofing distributors. For more information, call: 1-800-232-2436 (English) 1-800-565-1255 (French)

**7. MAINTENANCE**

Not applicable.

**8. TECHNICAL SERVICES**

Dow can provide technical information to help address questions when using STYROFOAM™ Brand DECKMATE™ Plus FA Foam 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)

**9. FILING SYSTEMS**

www.dowbuildingsolutions.com