1. PRODUCT NAME
STYROFOAM™ Brand PANELMATE™ and PANELMATE™ Ultra Insulation

2. MANUFACTURER
Dow Chemical Canada ULC
Dow Building Solutions
2400, 215 - 2 Street S.W.,
Calgary, Alberta T2P 1M4
1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)
www.dowbuildingsolutions.com

3. PRODUCT DESCRIPTION
STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Extruded Polystyrene Foam Insulation products feature moisture resistance for long-lasting thermal performance in precast concrete sandwich panel applications. The R-value (RSI)* of STYROFOAM™ Brand PANELMATE™ Insulation products helps create concrete wall systems that are durable, strong and energy efficient.

STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation products are highly resistant to moisture due to Dow’s distinct extrusion process. The closed-cell, rigid plastic foam of these products is extruded with smooth, high-density skins that make both products moisture resistant. This helps maintain the products’ thermal value when subjected to the high moisture content of the concrete panel manufacturing process.

STYROFOAM™ Brand PANELMATE™ Ultra Insulation is designed specifically for insulated precast concrete panels that require above-average thermal performance. STYROFOAM™ Brand PANELMATE™ Ultra Insulation uses patented carbon black materials in the foam for greater thermal performance over other extruded polystyrene insulations.

This enhanced formulation helps the foam to absorb infrared radiation, slowing its transmission through the foam and lowering heat flow.

When installed properly, STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation products offer economical longterm thermal performance under the harsh conditions of freeze-thaw cycling, a common phenomenon found in precast concrete panels in cold climates.

Size
Width and length: 2’ x 8’ (600 mm x 2,400 mm) Thickness: Custom sizes and edge treatment available upon request.
Not all products are available in all parts of the country. Other product sizes are available by custom order. Contact a Dow representative for additional information.

4. TECHNICAL DATA
Applicable Standards
ASTM International
• ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
• ASTM C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
• ASTM D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
• ASTM E96 – Standard Test Methods for Water Vapour Transmission of Materials
• ASTM D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging

Table 1: Physical Properties of STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation

<table>
<thead>
<tr>
<th>Property and Test Method</th>
<th>STYROFOAM™ Brand PANELMATE™</th>
<th>STYROFOAM™ Brand PANELMATE™ Ultra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Resistance per inch, ASTM C518 @ 75°F (24°C) mean temp., ft²•h•°F/Blu (m²•°C/W) min., R-value (RSI)</td>
<td>5.0 (0.87)</td>
<td>5.6 (0.97)</td>
</tr>
<tr>
<td>Compressive Strength, ASTM D1621, kPa, min.</td>
<td>16 (110)</td>
<td>25 (170)</td>
</tr>
<tr>
<td>Water Absorption, ASTM D2842, % by vol., max.</td>
<td>0.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Water Vapour Permeance, ASTM E96, 1” (25 mm), perms (ng/Pa•s•m²), max.</td>
<td>1.5 (90)</td>
<td>1.5 (90)</td>
</tr>
<tr>
<td>Maximum Use Temperature, °F (°C)</td>
<td>165 (74)</td>
<td>165 (74)</td>
</tr>
<tr>
<td>Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F (mm/mm•°C)</td>
<td>3.5 × 10⁻⁶ (6.3 × 10⁻⁴)</td>
<td>3.5 × 10⁻⁶ (6.3 × 10⁻⁴)</td>
</tr>
<tr>
<td>Flexural Strength, ASTM C203, psi (kPa), min.</td>
<td>35 (240)</td>
<td>43 (300)</td>
</tr>
</tbody>
</table>

*R means resistance to heat flow. The higher the R-value or RSI (R-Value Système International), the greater the insulating power.
ENVIROMENTAL DATA
STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation are hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential.

STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation are reusable in many applications.

Fire Information
STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation products are 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. at 1-866-583-BLUE (2583) or contact your local building inspector.

5. INSTALLATION
STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation boards are lightweight, and easy to handle, cut and install.

View www.dowbuildingsolutions.com or contact a local Dow representative for more specific instructions.

6. AVAILABILITY
STYROFOAM™ Brand PANELMATE™ and STYROFOAM™ Brand PANELMATE™ Ultra Insulation products are manufactured in many locations throughout Canada. The products are sold directly to panel manufacturers in full truckload quantities. 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
Not applicable.

8. MAINTENANCE
Not applicable.

9. TECHNICAL SERVICES
Dow can provide technical information to help address questions about using STYROFOAM™ Brand PANELMATE™ or STYROFOAM™ Brand PANELMATE™ 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

In Canada
DOW CHEMICAL CANADA ULC
2400, 215 - 2 Street S.W.
Calgary, Alberta T2P 1M4

US
dowbuildingsolutions.com

Technical Information: 1-866-583-BLUE (2583)
1-800-363-6210 (French)

Sales Information: 1-800-232-2436
1-800-565-1255 (French)

Dow Polyurethane Foam Insulation and Sealants
CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult [Material] Safety Data Sheet (MSDS) call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-866-636-4400 in the U.S. or 1-519-339-3711 in Canada. When air sealing buildings, ensure that combustion appliances, such as furnaces, water heaters, wood burning stoves, gas stoves and gas dryers are properly vented to the outside. See website: http://www.epa.gov/iaq/homes/hip-ventilation.html. In Canada visit: http://archive.nrc-cnrc.gc.ca/eng/8p/r/c/83/g3-833-house-ventilation.html.

STYROFOAM™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyl. Read all the instructions and MSDS carefully before use. Wear protective clothing (including long sleeves), gloves, goggles and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure. STYROFOAM™ Brand SPF should be installed by a trained SPF applicator.

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.

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Dow Polyurethane Foam Insulation and Sealants

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