

# 1 | PRODUCT NAME

## STYROFOAM PANELMATE and PANELMATE Ultra Insulation

### 2 | Manufacturer

Dow Chemical Canada Inc.  
 Building Materials  
 1086 Modeland Rd.  
 Sarnia, ON N7T 7K7  
 English: 1-800-268-4840  
 French: 1-800-363-6210  
 www.dowbuildingmaterials.com

### 3 | Product Description

#### BASIC USE

STYROFOAM\* PANELMATE\* and STYROFOAM PANELMATE Ultra extruded polystyrene insulation products feature proven moisture resistance for long-lasting thermal performance in precast concrete sandwich panel applications. The R-value\*\* of STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products helps create concrete wall systems that are durable, strong and energy-efficient.

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products are highly resistant to moisture due to Dow's unique extrusion process. The closed-cell, rigid plastic foam of STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation 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 PANELMATE Ultra insulation is designed specifically for insulated precast concrete panels that require above-average thermal performance. STYROFOAM PANELMATE Ultra insulation

uses patented carbon black materials in the foam for greater thermal performance over other extruded polystyrene insulations. This enhanced formulation enables the foam to absorb infrared radiation, slowing its transmission through the foam and lowering heat flow.

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products offer economical long-term 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)  
 Thicknesses: 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 C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- 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

CAN/ULC S701

- Standard for Thermal Insulation, Polystyrene Boards, and Pipe Covering, Type 2 (STYROFOAM PANELMATE insulation), Type 3 (STYROFOAM PANELMATE Ultra insulation)

#### PHYSICAL/CHEMICAL PROPERTIES

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products exhibit the properties and characteristics indicated in Table 1 when tested as represented. For chemical resistance properties of STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products, see Table 2.

#### ENVIRONMENTAL DATA

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products are manufactured with HCFC blowing agents, which have 94 percent less ozone depletion potential than standard CFC blowing agents.

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation products are reusable in many applications and can be recycled.

#### FIRE PROTECTION

For proper protection of plastic foam in storage, consult an insurer, local fire department or other authority having jurisdiction.

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\*\*R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power.

## 5 Installation

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation boards are lightweight, easy to handle,

cut and install. Contact a local Dow representative or access the literature library at [www.dowbuildingmaterials.com](http://www.dowbuildingmaterials.com) for more specific instructions.

TABLE 1

Physical Properties of STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra Insulation		
Property and Test Method	Value	
	STYROFOAM PANELMATE	STYROFOAM PANELMATE Ultra
Thermal Resistance per in. (25 mm), ASTM C518 at 75°F (24°C) mean temp., ft <sup>2</sup> •h•°F/Btu (m <sup>2</sup> •°C/W) min., R-value (RSI)	5.0 (0.88)	5.6 (0.99)
Compressive Strength, ASTM D1621, psi (kPa), min.	16 (110)	25 (170)
Water Absorption, ASTM D2842, % by vol., max.	0.9	0.7
Water Vapour Permeance, ASTM E96, 1" (25 mm), perms (ng/Pa•s•m <sup>2</sup> ), max.	1.5 (90)	1.5 (90)
Maximum Use Temperature, °F (°C)	165 (74)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696 in/in•°F (mm/m•°C)	3.5 x 10 <sup>-5</sup> (6.3 x 10 <sup>-2</sup> )	3.5 x 10 <sup>-5</sup> (6.3 x 10 <sup>-2</sup> )
Flexural Strength, ASTM C203, psi (kPa), min.	35 (240)	43 (300)

TABLE 2

Chemical Resistance of STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra Insulation	
Acid, inorganic	Good
Acid, organic	Good
Alcohol	Good
Asphalts, water-based	Good
Bases (caustics)	Good
Bleach	Good
Brines and other salts	Good
Cements and mortar	Good
Gases, carbon dioxide (CO <sub>2</sub> )	Good
Gases, carbon hydroxide (CH <sub>4</sub> )	Good
Gases, chlorofluorocarbons	Good
Gases, dioxide (O <sub>2</sub> )	Good
Gases, nitrous hydroxide (NH <sub>3</sub> )	Good
Gases, sulfur dioxide (SO <sub>2</sub> )	Good
Mineral oil USP	Excellent
Paints, alcohol-based	Good
Paints, water-based	Good
Water	Good

### IN CANADA:

- For Technical Information (English): **1-800-268-4840**; (French): **1-800-363-6210**
- For Sales Information (English): **1-800-232-2436**; (French): **1-800-565-1255**

DOW CHEMICAL CANADA INC.

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COMBUSTIBLE: Protect from high heat sources. For more information, consult MSDS and/or call Dow at 1-800-268-4840. In an emergency, call 1-519-339-3711. Local building codes may require a protective or thermal barrier. Contact your local building inspector for more information.



Living.  
Improved daily.

## 6 Availability

STYROFOAM PANELMATE and STYROFOAM PANELMATE Ultra insulation 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:

- English: 1-800-232-2436
- French: 1-800-565-1255

## 7 Warranty

Not applicable.

## 8 Maintenance

Not applicable.

## 9 Technical Services

Dow can provide technical information to help address questions about using STYROFOAM PANELMATE or STYROFOAM PANELMATE Ultra insulation. Technical personnel are available at Dow sales offices to assist with any insulation project. For product literature and technical information, please call our Customer Information Center.

- English: 1-800-268-4840
- French: 1-800-363-6210

## 10 Filing Systems

- [www.dowbuildingmaterials.com](http://www.dowbuildingmaterials.com)
- [www.sweets.com](http://www.sweets.com)

