



INNOVATIONS FOR LIVING.™

Produced by Reed Construction Data, this BuildSelect utilizes Construction Specifications Canada's (CSC) 10-part format and the MasterFormat™ classification system. BuildSelect consolidates essential information about a product in a manner that meets the needs of specifiers and other professionals involved in a construction project. BuildSelect documents are written by Registered Specification Writers (RSWs). Part 10 of every BuildSelect provides a list of additional filing locations for information about the product.

### 1. PRODUCT NAME

- > FOAMULAR 350 Rigid Foam Insulation
- > FOAMULAR® THERMAPINK Rigid Foam Insulation
- > FOAMULAR Tapered Roofing Systems
- > FOAMULAR 400 Rigid Foam Insulation
- > FOAMULAR 350 CHANNELVENT (CVI)® Rigid Foam Insulation

### 2. MANUFACTURER

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### 3. PRODUCT DESCRIPTION

#### Description

This datasheet includes technical information for Owens Corning Canada's insulation products used as roof recovery boards, and for roof and deck insulation.

#### Basic Use

FOAMULAR THERMAPINK roof and deck insulation offers exceptional moisture resistance and superior insulation for new construction roofing systems. It has superior long-term thermal properties and provides efficiencies during installation. It can be placed over a concrete deck or directly on a non-fire resistance-rated steel roof deck without the need for a thermal barrier board. For additional details, see Underwriters Laboratories, Inc (UL) Roof Deck Construction #457. Consult local codes.

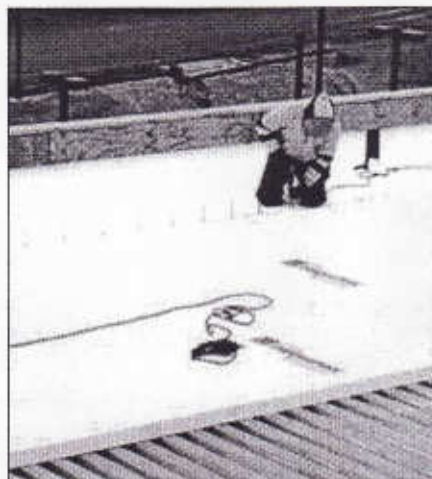
Extruded polystyrene is the only type of insulation recommended for Protected Roof Membrane Assemblies (PRMA) applications where the insulation is placed directly over the membrane. Owens Corning Canada offers four specific types of FOAMULAR insulation for this use:

- > FOAMULAR 350.
- > FOAMULAR 350 CHANNELVENT (CVI).
- > FOAMULAR 400.

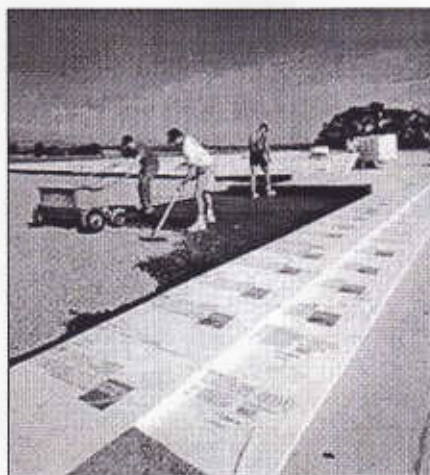
The compressive strength of FOAMULAR insulation provides assurance of long-term roofing integrity. At a minimum of 240 kPa (35 psi) compressive strength, FOAMULAR 350 insulation meets the needs of many PRMA applications. For even greater strength, specify the 275 kPa (40 psi) compressive strength of FOAMULAR 400 insulation. Products can feature rain channels on all four bottom edges to provide drainage.

FOAMULAR 350, 400 and CVI insulation products are designed for PRMA. They protect the waterproofing membrane from damage, thermal stress and UV exposure. Available in thicknesses of 25.4 mm (1") to 101.6 mm (4").

These products feature:



- > High compressive strength: 240 kPa (35 psi), 275 kPa (40 psi).
- > Outstanding moisture resistance for long-term thermal performance.
- > High RSI of 0.88 per 25.4 mm (R-5 per inch) of product thickness.
- > Tough, lightweight panels that handle, hoist and install quickly and easily.
- > Outstanding moisture resistance for long-term thermal performance: Water absorption (% by volume) 0.70.
- > Planned thermal upgrades to the insulation are cost efficient and require minimal disruption to operation of the facility.



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BUILD SPEC WWW.BUILDCORE.COM/OWEN445P.HTM  
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> Unique manufacturing process ensures reliable control and consistency of the product's physical properties of optimal efficiency in roof design.

Owens Corning Canada makes specifying a tapered roofing system easy through its Taper Control Center and will help correctly specify a tapered roofing system at no charge. For the specifier, Owens Corning Canada's all-inclusive design service provides everything needed for the project. This includes layout and budgeting assistance, and value engineering to help choose the best design to fit the project need. Single-source responsibility means no third-party involvement. The company ships the order with markings that illustrate where every single piece fits on the roof.

#### Composition and Materials

Owens Corning Canada FOAMULAR board is made with the patented HYDROVAC manufacturing process, which gives it an impermeable skin on both sides. This skin and the tight, closed cell structure of the board ensure the board retains both its ability to insulate and its compressive strength and integrity in use.

Because of its practically impermeable nature, FOAMULAR extruded polystyrene insulation is unaffected by moisture. FOAMULAR insulation maintains a thermal resistance ratio (% TRR) at a level above 80% even after 1000 days.

#### High-Density Insulation

Foamular 350, 400, 600 and 1000 are high-density insulations manufactured by Owens Corning Canada. These insulations are closed-cell, foam panels with a continuous extruded skin on the face and back surfaces, conforming to the minimum physical requirements of CAN/ULC-S701, Type 3 or 4 and ASTM C-578, Type VI and VII. They are designed for use in high loadbearing applications and are ideal for under slab, concrete floors and over foundation walls. These high compressive strength insulations resist damage from heavy loads. Their superior water resistance ensures stable thermal performance. The compressive strengths available are 241.29 kPa (35 psi), 276.76 kPa (40 psi), 413.64 kPa (60 psi) and 689.4 kPa (100 psi). These insu-

lations are lightweight, easy to fabricate and install.

#### Sizes

FOAMULAR 350 is provided in standard sizes of 609.6 mm x 1219.2 mm (24" x 48"). FOAMULAR THERMAPINK is provided in standard sizes of 609.6 mm x 2438.4 mm (24" x 96"). FOAMULAR 350 CHANNELVENT (CVI) and other types of insulation products are available in made-to-order sizes. Contact Owens Corning Canada using any of the methods listed in Part 2 of this BuildSelect for sizes.

#### Colours

FOAMULAR can be recognized by its characteristic pink colour.

#### Limitations

- > FOAMULAR is practical for all buildings having normal temperature conditions, but should not be used in contact with chimneys, heater vents, steam pipes or other surfaces where temperatures exceed 65.6°C (150°F). It is not recommended for applications where sustained temperatures exceed 73.9°C (165°F).
- > All constructions should be evaluated by a qualified design professional for the necessity of providing vapour retarders to avoid condensation and subsequent damage to the structure. See current ASHRAE Handbook of Fundamentals for more information.
- > Provisions should be made to protect the insulation from excessive exposure to direct sunlight by covering the insulation as soon as possible.
- > Some plastic or oil-based adhesives and many solvent-laden mastics are not compatible with polystyrene-based rigid foam insulation. Specify adhesive, sealing tape that meets the manufacturer's standard, when necessary.
- > FOAMULAR is a non-structural material and must be installed on framing that is structurally adequate to meet required construction and service loading conditions.
- > Roofs exposed to chemical discharge need special consideration. Contact Owens Corning Canada using any of the methods

listed in Part 2 of this BuildSelect for information.

- > Thermal barriers are not required over concrete decks or when the original roof is left in place. In some cases, a thermal barrier is installed on steel decks.
- > For specific details about using FOAMULAR THERMAPINK insulation over steel decks without a thermal barrier, consult UL Roof Deck Construction #457 or a local Owens Corning Canada representative. Note that thermal barrier boards or cover boards may still be needed when designing hourly fire resistance or Class A, B, or C rated roofing systems. Consult applicable systems directories from Underwriters' Laboratories of Canada or the Factory Mutual System.
- > Some roof membranes, such as PVC, require a slip sheet, such as a glass fibre mat or barrier board, between the insulation and the membrane.
- > A mechanically attached or fully adhered overlayment of wood fibre or perlite board is required over FOAMULAR roof insulation for BUR and torch-applied modified bitumen.

## 4. TECHNICAL DATA

### Applicable Standards

#### ASTM International (ASTM)

- > ASTM C 203-99, Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation.
- > ASTM C 518-02e, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- > ASTM C 578-03a, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- > ASTM D 1621-00, Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
- > ASTM D 2126-99, Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
- > ASTM D 2842-01, Standard Test Method for Water Absorption of Rigid Cellular Plastics.

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- > ASTM D 2863-00, Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index).
- > ASTM E 96-00e1, Standard Test Methods for Water Vapor Transmission of Materials.

**BuildSpec, Reed Construction Data**

- > Owens Corning Canada BuildSpec 2004 Specification Section 07220 - Roof and Deck Insulation (also available on the Web at [www.buildcore.com/owen44sp.htm](http://www.buildcore.com/owen44sp.htm)).

**National Research Council (NRC)**

- > CCMC #11246-L, Celfort 200/CodeBord/Cel-Lok System/Foamular 200/Thermapink.
- > CCMC #11247-L, Celfort 300/Lite-Form.
- > CCMC #12094-L, Foamular 350.

**Underwriters' Laboratories of Canada (ULC)**

- > CAN/ULC-S102.2-03, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials.
- > CAN/ULC-S701-01, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

**Environmental Considerations**

Conserving energy through effective insulation lowers fuel consumption and resultant operating cost. Complies with Federal and Provincial Environmental requirements regulating the use of Ozone Depleting Substances. FOAMULAR boards are GREENGUARD™ certified.

**Physical/Chemical Properties**

Test reports and additional information are available upon request.

- > Flexural strength: 415 kPa (60 psi) minimum.
- > Water absorption: 0.70 (% by volume maximum).
- > Compressive strength: 140 kPa to 275 kPa (20 psi to 40 psi) minimum.
- > Dimensional stability: 1.5% linear change maximum.
- > Thermal conductivity k-value: 0.20 at 24°C (75°F).
- > Thermal resistance: 0.88 m<sup>2</sup>hr°C/W (5.0 ft<sup>2</sup>hr°F/BTU) at 24°C (75°F).
- > Where required, the flame-spread classification of the material should be determined according to CAN/ULC-S102.2.
- > Water vapour permeance: 60 ng/pa\*s\*m<sup>2</sup> max to 130 ng/pa\*s\*m<sup>2</sup> max (1.04 perms max to 2.26 perms max).

**5. INSTALLATION**

**Preparatory Work**

Handle and store product according to Owens Corning Canada recommendations. FOAMULAR insulation should be stored off the ground, protected from direct sunlight with a light-coloured polyethylene film and ventilated to prevent excessive temperature buildup. See Owens Corning Canada Roofing and Waterproofing Manual for fastening recommendations.

**Methods of Application**

Installation recommendations vary depending on product, application and specific design requirements. Complete installation recommendations are available from Owens Corning Canada.

**Precautions**

**Caution - Combustible**

FOAMULAR insulation will ignite if exposed to fire of sufficient heat and intensity, although it does contain a flame-retardant additive to inhibit ignition from small fire sources. Products intended for wall applications should be installed only with a thermal barrier on the interior side of the wall. During shipping, storage, installation and use, this product should not be exposed to open flame or other ignition sources.

Important: Apply only as much FOAMULAR roof insulation as can be covered by roofing materials (roof membrane and ballast) in the same day of installation to prevent its discoloration and damage from heat buildup by excessive exposure to sunlight. Owens Corning Canada requires that the roofing membrane and the FOAMULAR tapered insulation be ballasted immediately after placement of the membrane to prevent unnecessary movement of the insulation and the membrane. For more details, contact a local Owens Corning Canada sales representative using any of the methods listed in Part 2 of this BuildSelect.

**Building Codes**

Current data on building code requirements and product compliance may be obtained from Owens Corning Canada technical support specialists. Installation must comply with the requirements of all applicable local, provincial and national code jurisdictions.

**6. AVAILABILITY AND COST**

**Availability**

FOAMULAR products are available through a network of Owens Corning Canada dealers

**TABLE A: Filing Systems offered by Reed Construction Data and Owens Corning (File under 07220 Roof and Deck Insulation)**

Title	Description	Source	Updated
BuildSource Product Profile	Use to identify potential suppliers during the project design and early product selection phases.	BuildSource Product Finder, 2004, Vol 29 <a href="http://www.buildcore.com/owen44b5.htm">www.buildcore.com/owen44b5.htm</a>	Oct, 2003
BuildSelect 10-part Datasheet	Relevant details of a product needed by members of the building team to evaluate its suitability.	BuildSelect Product Data, 2004 <a href="http://www.buildcore.com/owen44se.htm">www.buildcore.com/owen44se.htm</a>	Oct, 2003
BuildSpec 3-part Specification	Use while preparing project specifications. Print or download PDF, RTF, Word, WP or ASCII text versions.	BuildSpec Product Specifications, 2004 <a href="http://www.buildcore.com/owen44sp.htm">www.buildcore.com/owen44sp.htm</a>	Oct, 2003
Manual	Owens Corning Roofing and Waterproofing Manual	Owens Corning Canada Inc <a href="http://www.owenscorning.com">www.owenscorning.com</a>	1999



throughout the country. Contact Owens Corning Canada using any of the methods listed in Part 2 of this BuildSelect for more information. Note: All products and sizes may not be available in all markets. For information about non-standard products, consult a local sales representative.

#### Cost

Budget installed cost information may be obtained from a local Owens Corning Canada dealer or from Owens Corning Canada.

#### 7. WARRANTY

It is the responsibility of the contractor to install FOAMULAR in accordance with Owens Corning Canada's published recommendations. The presence of an Owens Corning Canada representative at the job site does not relieve the con-

tractor from the responsibility to follow these instructions. Owens Corning Canada is not responsible for any liability resulting from a failure to follow these instructions. Owens Corning Canada offers a warranty on retention of RSI (R-value) over time. Owens Corning Canada's liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to Owens Corning Canada within 30 days from the date it was, or reasonably should have been, discovered. Further information on warranty conditions, duration and remedies may be obtained from Owens Corning Canada.

#### 8. MAINTENANCE

These products are maintenance free when installed according to Owens Corning Canada's published recommendations.

#### 9. TECHNICAL SERVICES

Owens Corning Canada supplies preliminary design assistance, aids in the preparation of submittal packages in both new and retrofit applications and offers a value engineering option that lets the designer choose the most effective and efficient tapered roof from among alternate designs. Easy-to-read, computer-generated shop drawings are available, as well. To contact the Taper Control Center, call 1-800-875-1594.

#### 10. FILING SYSTEMS

(For details, see Table A: Filing Systems)

Additional product information available upon request from Owens Corning Canada.

