FOAMULAR® Insulating Sheathing
Extruded Polystyrene (XPS) Rigid Foam Insulation

Product Data Sheet

**Key Features**
- Readily combines with blanket-type insulation for greater R-value
- Used in fire-rated exterior wall assemblies for application in office buildings, schools, shopping centers and more
- Tough film facers for added damage-resistance
- Excellent long-term stable insulating performance with an R-value\(^1\) of R-3, R-4 or R-5
- Exceptional moisture resistance, long-term durability
- Limited lifetime warranty\(^2\)—maintains 90% of R-value and covers all ASTM C 578 properties
- The only XPS foam to be GREENGUARD Children & Schools Certified\(^\text{TM}\)
- The only XPS foam with certified recycled content—certified by Scientific Certification Systems (SCS) to contain a minimum 20% recycled content
- Will not corrode, rot or support mold growth
- Zero ozone depletion potential with 70% less global warming potential than our previous formula
- Reusable
- Lightweight, durable rigid foam panels are easy to handle and install
- Easy to saw, cut or score

**Technical Information**
This product is combustible. A protective barrier or thermal barrier is required as specified in the appropriate building code. For additional information, consult MSDS or contact Owens Corning World Headquarters at 1-800-GET-PINK\(^\circ\).

All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals.

FOAMULAR® XPS insulation is a non-structural material and must be installed on framing which is independently braced and structurally adequate to meet required construction and service loading conditions.

FOAMULAR® insulation can be exposed to the exterior during normal construction cycles. During that time some fading of color may begin due to UV exposure, and, if exposed for extended periods of time, some degradation or “dusting” of the polystyrene surface may begin. It is best if the product is covered within 60 days to minimize degradation. Once covered, the deterioration stops, and damage is limited to the thin top surface layers of cells. Cells below are generally unharmed and still useful insulation.

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**Energy-Saving, Moisture-Resistant XPS Insulation**
Film-Faced Insulating Sheathing for Damage Control
ASTM C 578 Type X, 15 psi minimum

**Description**
Used as sheathing over all exterior walls in wood or metal framing construction, FOAMULAR® Insulating Sheathing (IS) insulation creates an effective insulating envelope over the entire structure.

FOAMULAR® IS insulation is ideal for either wood or metal framing construction, and suits a variety of exterior finishes. These strong, lightweight, rigid foam panels with a film face provide the durability and damage resistance necessary to meet the rigorous demands of site built construction. It is highly resistant to moisture and retains its long term R-value, year after year—even after prolonged exposure to moisture and freeze/thaw cycling.

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Standards, Codes Compliance
- Meets ASTM C 578 Type X
- UL Classified. A copy of UL Classification Certificate U-197 is available at www.foamular.com
- ASTM E 119 Fire Resistance Rated Wall Assemblies. See www.foamular.com for details
- Meets California Quality Standards and HUD UM #71a
- Compliance verification by RADCO (AA-650)

Certifications and Sustainable Features of FOAMULAR® XPS Insulation
- FOAMULAR® XPS insulation is reusable
- FOAMULAR® XPS insulation is made with a zero ozone depletion formula
- Certified by Scientific Certification Systems to contain a minimum of 20% pre-consumer recycled polystyrene
- Certified to meet indoor air quality standards under the stringent GREENGUARD Indoor Air Quality Certification Program and the GREENGUARD Children & Schools Certification Program

Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Resistance, R-Value (180 day)</td>
<td>ASTM C 518</td>
<td></td>
</tr>
<tr>
<td>@ 75°F (24°C) mean temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>¼” Thickness</td>
<td>3.0 (0.53)</td>
<td></td>
</tr>
<tr>
<td>½” Thickness</td>
<td>4.0 (0.70)</td>
<td></td>
</tr>
<tr>
<td>¾” Thickness</td>
<td>5.0 (0.88)</td>
<td></td>
</tr>
<tr>
<td>@ 40°F (4.4°C) mean temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>¼” Thickness</td>
<td>3.2 (0.57)</td>
<td></td>
</tr>
<tr>
<td>½” Thickness</td>
<td>4.3 (0.76)</td>
<td></td>
</tr>
<tr>
<td>¾” Thickness</td>
<td>5.4 (0.95)</td>
<td></td>
</tr>
<tr>
<td>Long Term Thermal Resistance, LTTR-Value</td>
<td>CAN/ULC S770-03</td>
<td></td>
</tr>
<tr>
<td>@ 75°F (24°C) mean temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>¼” Thickness</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>½” Thickness</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>¾” Thickness</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Flexural Strength, minimum psi (kPa)</td>
<td>ASTM C 203</td>
<td></td>
</tr>
<tr>
<td>¼” Thickness</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>½” Thickness</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>¾” Thickness</td>
<td>65 (448)</td>
<td></td>
</tr>
<tr>
<td>Compressive Strength, minimum psi (kPa)</td>
<td>ASTM D 1621</td>
<td>15 (103)</td>
</tr>
<tr>
<td>Water Absorption, maximum % by volume</td>
<td>ASTM C 272</td>
<td>0.10</td>
</tr>
<tr>
<td>Water Vapor Permeance, maximum perm (ng/Pa•s•m²)</td>
<td>ASTM E 96</td>
<td>0.2 (11.5)</td>
</tr>
<tr>
<td>Dimensional Stability, maximum % linear change</td>
<td>ASTM D 2126</td>
<td>2.0</td>
</tr>
<tr>
<td>Flame Spread</td>
<td>ASTM E 84</td>
<td>5</td>
</tr>
<tr>
<td>Smoke Developed</td>
<td>ASTM E 84</td>
<td>45-175</td>
</tr>
<tr>
<td>Oxygen Index, minimum % by volume</td>
<td>ASTM D 2863</td>
<td>24</td>
</tr>
<tr>
<td>Service Temperature, maximum °F (°C)</td>
<td>—</td>
<td>165 (74)</td>
</tr>
</tbody>
</table>

Linear Coefficient of Thermal Expansion, in/in/°F (m/m/°C) = 3.5 x 10⁻⁶ (6.3 x 10⁻⁶)

1. Properties shown are representative values for core 1” thick material, unless otherwise specified.
2. Modified as required to meet ASTM C 578.
3. R means the resistance to heat flow; the higher the value, the greater the insulation power. This insulation must be installed properly to get the marked R-value. Follow the manufacturer’s instructions carefully. If a manufacturer’s fact sheet is not provided with the material shipment, request this and review it carefully. R-values vary depending on many factors including the mean temperature at which the test is conducted, and the age of the sample at the time of testing. Because rigid foam plastic insulation products are not all aged in accordance with the same standards, it is useful to publish comparison R-value data. The R-value for FOAMULAR® XPS insulation is provided from testing at two mean temperatures, 40°F and 75°F, and from two aging (conditioning) techniques, 180 day real-time aged (as mandated by ASTM C 578) and a method of accelerated aging sometimes called “Long Term Thermal Resistance” (LTTR) per CAN/ULC S770-03. The R-value at 180 day real-time age and 75°F mean temperature is commonly used to compare products and is the value printed on the product.
4. Value at yield or 5%, whichever occurs first.
5. Values at yield or 10% deflection, whichever occurs first.
6. Data ranges from 0.00 to 10 value shown due to the level of precision of the test method.
7. Water vapor permeance decreases as thickness increases.
8. These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.
10. ASTM E 84 is thickness-dependent, therefore a range of values is given.
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Product and Packaging Data
FOAMULAR® Insulating Sheathing Insulation

<table>
<thead>
<tr>
<th>Material</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exuded polystyrene product with a closed-cell foam panel with clear film facers on both sides.</td>
<td>Shipped in units with individually wrapped bundles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thickness (in)</th>
<th>Product Dimensions (Thickness (in) x Width (in) x Length (in))</th>
<th>Pallet (Unit) Dimensions (typical)</th>
<th>Square feet per Pallet</th>
<th>Board feet per Pallet</th>
<th>Bundles per Pallet</th>
<th>Pieces per Bundle</th>
<th>Pieces per Pallet</th>
<th>Edges</th>
</tr>
</thead>
<tbody>
<tr>
<td>½</td>
<td>½ x 48 x 96 (Half unit) 4 x 8 x 4</td>
<td>4 x 9 x 8</td>
<td>2,560</td>
<td>1,280</td>
<td>4</td>
<td>20</td>
<td>80</td>
<td>Square</td>
</tr>
<tr>
<td></td>
<td>½ x 48 x 108 4 x 8 x 4</td>
<td></td>
<td>5,760</td>
<td>2,880</td>
<td>8</td>
<td>20</td>
<td>160</td>
<td>Tongue &amp; Groove</td>
</tr>
<tr>
<td>¾</td>
<td>¾ x 48 x 96 (Half unit) 4 x 8 x 4</td>
<td>4 x 9 x 8</td>
<td>2,048</td>
<td>1,536</td>
<td>4</td>
<td>16</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td></td>
<td>¾ x 48 x 108 4 x 9 x 8</td>
<td></td>
<td>6,608</td>
<td>3,456</td>
<td>8</td>
<td>16</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1 x 48 x 96 4 x 8 x 8</td>
<td></td>
<td>1,536</td>
<td>1,536</td>
<td>4</td>
<td>12</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>

* Available lengths and edge configurations vary by thickness. See www.foamular.com for current offerings. Other sizes may be available upon request. Consult your local Owens Corning representative for availability.

- Qualified as an ENERGY STAR® product, under the U.S. Environmental Protection Agency and the U.S. Department of Energy
- Approved under the National Association of Home Builders (NAHB) Research Center Green Seal of Approval
- Utilizing FOAMULAR® XPS insulation can help builders achieve green building certifications including the Environmental Protection Agency’s ENERGY STAR®, the National Association of Home Builders’ National Green Building certification, and the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED®) certification
- FOAMULAR® XPS insulation qualifies for The Buy American provision of the American Recovery and Reinvestment Act (ARRA)

Environmental and Sustainability
Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at www.sustainability.owenscorning.com.

Warranty
FOAMULAR® XPS insulation limited lifetime warranty maintains 90% of its R-value for the lifetime of the building and covers all ASTM C 578 properties. See actual warranty for complete details, limitations and requirements at www.foamular.com or www.owenscorningcommercial.com.

Notes
1. R means the resistance to heat flow; the higher the R-value, the greater the insulating power.
2. See actual warranty for complete details, limitations and requirements.

All products described here may not be available in all geographic markets. Consult your local sales office representative for more information.

For more information on the Owens Corning family of building products, contact your Owens Corning dealer, call 1-800-GET-PINK®, or access our web sites: www.foamular.com and www.owenscorning.com.
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