Energy-Saving, Moisture-Resistant XPS Insulation
For Cold Storage Applications

**FOAMULAR® LT30 Insulation:**
ASTM C578 Type IV, 30 psi minimum

**FOAMULAR® LT40 Insulation:**
ASTM C578 Type IV, 40 psi minimum

**Description**
FOAMULAR® LT30 and LT40 extruded polystyrene (XPS) insulation is suitable for virtually all cold storage insulating needs, including floors, walls and roofs. Durable FOAMULAR® XPS also performs well under cold storage concrete floor slabs. FOAMULAR® XPS insulation's resistance to water absorption and water vapor transmission allows it to maintain low thermal conductivity in the presence of the severe water vapor characteristics of cold storage applications.

FOAMULAR® XPS insulation is a closed-cell insulation made using Owens Corning's exclusive HYDROVAC® manufacturing process. FOAMULAR® extruded polystyrene insulation is manufactured to comply with ASTM C578. See FOAMULAR® Typical Physical Properties table.

Owens Corning offers a variety of FOAMULAR® insulation products for use in cold storage applications depending on the specific needs of the design and engineering process.

Durable LT30 and LT40 insulation products perform well under cold storage concrete floor slabs.

**FOAMULAR® XPS insulation has been tested for its ability to retain critical structural properties in a severe freeze/thaw environment.**


**Key Features**
- Excellent long-term stable insulating performance at R-51 per inch
- Exceptional moisture resistance, long-term durability
- Limited lifetime warranty—maintains 90% of R-value and covers all ASTM C578 properties
- GREENGUARD Gold Certified
- The only XPS foam with certified recycled content—certified by SCS Global Services 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®.

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.
Standards, Codes Compliance

• Meets ASTM C578 Type IV (LT30) and Type IV (LT40)

• UL Classified. A copy of UL Classification Certificate U-197 is available at www.foamular.com

• See UL ER8811-01 at UL.com

• See www.foamular.com for details on listings, constructions and assemblies

• Meets California Quality Standards; 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 SCS Global Services to contain a minimum of 20% recycled content

• Certified to meet indoor air quality standards under the stringent GREENGUARD Indoor Air Quality Certification Program, and the GREENGUARD Gold Certification.

• Approved under the Home Innovation Research Labs NGBS Green Certification Program

• 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 may qualify for The Buy American provision of the American Recovery and Reinvestment Act (ARRA)

Typical Physical Properties

FOAMULAR® LT30/LT40 Extruded Polystyrene Insulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>FOAMULAR® Insulation LT30</th>
<th>FOAMULAR® Insulation LT40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Resistance, R-Value (180 day) minimum, hr•ft²•°F/Btu (RSI, °C•m²/W)</td>
<td>ASTM C518</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 75°F (24°C) mean temperature 2&quot; Thickness</td>
<td>10.0 (1.76)</td>
<td>10.9 (1.90)</td>
<td></td>
</tr>
<tr>
<td>2½&quot; Thickness</td>
<td>12.5 (2.20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&quot; Thickness</td>
<td>13.0 (2.64)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 40°F (4.4°C) mean temperature 2&quot; Thickness</td>
<td></td>
<td>10.8 (1.90)</td>
<td></td>
</tr>
<tr>
<td>2½&quot; Thickness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&quot; Thickness</td>
<td></td>
<td>13.5 (2.38)</td>
<td></td>
</tr>
<tr>
<td>Compressive Strength, minimum psi (kPa)</td>
<td>ASTM D1621</td>
<td>30 (207)</td>
<td>40 (276)</td>
</tr>
<tr>
<td>Flexural Strength, minimum psi (kPa)</td>
<td>ASTM C203</td>
<td>75 (517)</td>
<td>115 (793)</td>
</tr>
<tr>
<td>Water Absorption, maximum % by volume</td>
<td>ASTM C272</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Water Vapor Permeance, maximum perm (ng/Pa•s•m²)</td>
<td>ASTM E96</td>
<td>1.5 (86)</td>
<td>1.1 (63)</td>
</tr>
<tr>
<td>Dimensional Stability, maximum % linear change</td>
<td>ASTM D2126</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Flame Spread</td>
<td>ASTM E84</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Smoke Developed</td>
<td>ASTM E84</td>
<td>45-175</td>
<td></td>
</tr>
<tr>
<td>Oxygen Index, minimum % by volume</td>
<td>ASTM D2863</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Service Temperature, maximum °F (°C)</td>
<td>—</td>
<td>165 (74)</td>
<td></td>
</tr>
<tr>
<td>Linear Coefficient of Thermal Expansion, in/m²°F (mm²/°C)</td>
<td>ASTM E228</td>
<td>3.5 x 10⁻³ (6.3 x 10⁻³)</td>
<td></td>
</tr>
</tbody>
</table>

1. Properties shown are representative values for 1” thick material, unless otherwise specified.
2. Modified as required to meet ASTM C578.
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 C578) 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. Values at yield or 10% deflection, whichever occurs first.
5. Value at yield or 5%, whichever occurs first.
6. Data ranges from 0.00 to 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 E84 is thickness-dependent, therefore a range of values is given.
Product and Packaging Data

**FOAMULAR® LT30/LT40 Extruded Polystyrene (XPS) Rigid Foam Insulation**

<table>
<thead>
<tr>
<th>Material</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extruded polystyrene closed-cell foam, Type IV</td>
<td>Shipped in poly-wrapped units with individually wrapped or banded 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>FOAMULAR® LT30 Insulation</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2 x 48 x 96</td>
<td>4 x 8 x 8</td>
<td>1,536</td>
<td>3,072</td>
<td>8</td>
<td>6</td>
<td>48</td>
<td>Square Edges</td>
</tr>
<tr>
<td>3</td>
<td>3 x 48 x 96</td>
<td>4 x 8 x 8</td>
<td>1,024</td>
<td>3,072</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>Square Edges</td>
</tr>
<tr>
<td>FOAMULAR® LT40 Insulation</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2 x 48 x 96</td>
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<td>1,536</td>
<td>3,072</td>
<td>8</td>
<td>6</td>
<td>48</td>
<td>Square Edges</td>
</tr>
<tr>
<td>2½</td>
<td>2.5 x 48 x 96</td>
<td>4 x 8 x 8</td>
<td>1,152</td>
<td>2,880</td>
<td>6</td>
<td>6</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3 x 48 x 96</td>
<td>4 x 8 x 8</td>
<td>1,024</td>
<td>3,072</td>
<td>4</td>
<td>8</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

1. 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.

**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 C578 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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SCS Global Services provides independent verification of recycled content in building materials and verifies recycled content claims made by manufacturers. For more information, visit www.SCSglobalservices.com.

GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

This Home Innovation Research Labs Green Approved mark is your assurance that a product is eligible for points toward National Green Building Certification. Visit www.GreenApprovedProducts.com for details.

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