1. PRODUCT NAME
Korolite® 160 Expanded Polystyrene (EPS) Insulation

2. MANUFACTURER
Airfoam Industries Ltd.
19402 - 56 Ave, Surrey BC V3S 6K4 Canada
800.663.8162 or 604.534.8626 | www.airfoam.com

3. PRODUCT DESCRIPTION
Korolite® Expanded Polystyrene (EPS) is a high-performance, closed cell, rigid foam insulation material that uses air as main ingredient. EPS insulation resists moisture and mold/fungi growth with low environmental impacts, high & stable Long-Term Thermal Resistance, and good drying potential over the long service lives of buildings.
Korolite® 160 is used in many residential and commercial construction applications such as wall, roof and below-grade insulation including under slabs.
Sizes: Korolite® EPS insulation is available in various lengths, widths and common thicknesses listed in Table 2. Common widths and lengths are 2'x8' and 4'x8' [0.61m x 2.44m or 1.22m x 2.44m] but can be custom ordered in any size to meet your project specifications.

4. TECHNICAL DATA

Code Compliance
Korolite® 160 EPS insulation is third-party certified and complies with:
• Thermal Insulation Canada: CAN/ULC-S701.1 Type 2, US: ASTM C578 Type II, ICC-ES AC12
• Surface Burning Characteristics: CAN/ULC-S102.2, ASTM E84 (UL 723)

Material Properties
Korolite® 160 Insulation products exhibit the typical physical properties indicated in Table 1 and below when tested as represented.
Typical insulation values for common thicknesses are listed in Table 2.

Environment Data
EPS has much lower environmental impacts than most other foam plastic insulation materials. The Environmental Product Declaration (EPD) has been certified by UL Environment and is available on www.airfoam.com.
Korolite® EPS insulation may contain up to 30% pre-consumer recycled content or can be ordered without recycled content for EIFS/Stucco applications. Korolite® EPS insulation resists mold & fungi growth per ASTM C1338 and has no nutritional value for insects. To protect against termites place adequate physical barriers such as membranes around below-grade EPS.
Max. service temperature: Long-Term Exposure 75°C [167°F], Intermittent Exposure 80°C [176°F]
Thermal expansion coefficient: 5-7 • 10⁻⁶/°K
Capillarity: None.

TABLE 1. Korolite® 160 EPS Insulation - Material Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Value</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Resistance¹</td>
<td>psi</td>
<td>16</td>
<td>ASTM D1621</td>
</tr>
<tr>
<td>Minimum @ 10% Deformation</td>
<td>kPa</td>
<td>110</td>
<td>Proc. A</td>
</tr>
<tr>
<td>Thermal Resistance² ³</td>
<td>psi</td>
<td>35</td>
<td>ASTM C518</td>
</tr>
<tr>
<td>Minimum @ 24°C [75°F]</td>
<td>kPa</td>
<td>240</td>
<td>Proc. B</td>
</tr>
<tr>
<td>R-Value / inch thickness</td>
<td>ft²•hr•°F/(BTU-in)</td>
<td>4.04</td>
<td>ASTM C203</td>
</tr>
<tr>
<td>Rsi / 25mm thickness</td>
<td>m²•°C/(W•25mm)</td>
<td>0.70</td>
<td>Disscunt</td>
</tr>
<tr>
<td>Flexural Strength Minimum</td>
<td>Rsi</td>
<td>1.5</td>
<td>ASTM D976</td>
</tr>
<tr>
<td>Water Vapor Permeance</td>
<td>perms</td>
<td>3.5</td>
<td>ASTM C272, 1 Day</td>
</tr>
<tr>
<td>Maximum @ 1&quot; [25.4mm] thickness</td>
<td>lb-m/m³</td>
<td>201</td>
<td>ASTM D2842, 4 Days</td>
</tr>
<tr>
<td>Water Absorption² Maximum % by volume</td>
<td>USA</td>
<td>3</td>
<td>ASTM D2126, 7 Days @ 70°C</td>
</tr>
<tr>
<td>Dimensional Stability</td>
<td>% linear change max.</td>
<td>1.5</td>
<td>ASTM C518 or C177</td>
</tr>
<tr>
<td>Additional Thermal Resistance Information³ ⁴ ⁵</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical R-value²⁶ per inch [25.4mm] @ 25°F</td>
<td>ft²•hr•°F/(BTU-in)</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>@ 40°F</td>
<td>ft²•hr•°F/(BTU-in)</td>
<td>4.4</td>
<td></td>
</tr>
</tbody>
</table>

Applicable Standards
• ASTM C203 - Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
• ASTM C303 - Standard Test Method for Dimensions and Density of Preformed Block and Board—Type Thermal Insulation
• ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
• ASTM C1338 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings
• ASTM C1512 - Standard Test Method for Characterizing the Effect of Exposure to Environmental Cycling on Thermal Performance of Insulation Products
• ASTM D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics
• ASTM D1622 - Standard Test Method for Apparent Density of Rigid Cellular Plastics
• ASTM D2126 - Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
• ASTM D2863 - Standard Test Method for Measuring the Response of Rigid Cellular Plastics to Thermal and Humid Aging
• ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
• ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials
• CAN/ULC-S701 - Standard Methods of Fire Endurance Tests of Building Construction and Materials
• CAN/ULC-S102 - Standard Method of Test for Surface Burning Characteristics of building Materials and Assemblies
• CAN/ULC-S701.1 - Standard for Thermal Insulation, Polystyrene, Boards & Pipe Covering
• ICC-ES AC12 - Foam Plastic Insulation
Fire Characteristics
- Limiting Oxygen Index: min. 24% per ASTM D2863. Airfoam’s EPS for construction applications contains a polymeric (non-HBCD) fire retardant modifier.

Surface Burning Characteristics
- Canada: CAN/ULC-S102.2: Flame-Spread Rating ≤290, Smoke Developed Classification over 500.
- USA: ASTM E84 (UL 723): Flame Spread Index ≤25, Smoke-Developed Index ≤450 up to 6" thick.

°F/BTU: 152.4mm 38.1mm 50.8mm 63.5mm 101.6mm 76.2mm 2.80 127mm Min. R-Value


Solubility & Incompatibility
- Insoluble in water and in general chemically inert. EPS dissolves in hydrocarbons (e.g. fuels, oils, tar), organic solvents (e.g. acetone/ketones, benzene, paint thinner), ethers, esters, aldehydes and amines.

5. INSTALLATION

Install Korolite® insulation in compliance with all applicable building codes. Korolite® insulation is easy to handle and install and can be cut with a utility knife or any sharp blade. Butt edges and ends tightly to adjacent EPS boards. Ensure compatibility of any other product (such as adhesives, tapes, coatings or finishes) with Expanded Polystyrene. Korolite® Rigid Foam Insulation is a non-structural material. Korolite® insulation shall only be placed into an assembly where the moisture transport mechanisms are well understood and determined to be acceptable in accordance with accepted engineering practice (e.g. current ASHRAE Handbook of Fundamentals).

For safe handling and storage information refer to the Safety Data Sheet (SDS) at www.airfoam.com/SDS.pdf or request a printed copy.

GHS Classification: Non-Hazardous.

UV-light surface degradation: white EPS can be exposed to direct sunlight for a few weeks. Prolonged exposure to ultraviolet light creates a yellow dust on the surface of EPS products which has negligible impact on the products’ properties but may require removal before adhering other materials such as stucco or self-adhesive membranes.

TABLE 2. Korolite® 160 Thermal Resistance @ 75°F [24°C] by Thickness

<table>
<thead>
<tr>
<th>Material Thickness</th>
<th>Min. R-Value ft²•hr•°F/BTU</th>
<th>Min. RSI (m²•°C)/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>25.4mm</td>
<td>4.04</td>
</tr>
<tr>
<td>1.5&quot;</td>
<td>38.1mm</td>
<td>6.06</td>
</tr>
<tr>
<td>2&quot;</td>
<td>50.8mm</td>
<td>8.08</td>
</tr>
<tr>
<td>2.5&quot;</td>
<td>63.5mm</td>
<td>10.10</td>
</tr>
<tr>
<td>3&quot;</td>
<td>76.2mm</td>
<td>12.12</td>
</tr>
<tr>
<td>4&quot;</td>
<td>101.6mm</td>
<td>16.16</td>
</tr>
<tr>
<td>5&quot;</td>
<td>127mm</td>
<td>20.20</td>
</tr>
<tr>
<td>6&quot;</td>
<td>152.4mm</td>
<td>24.24</td>
</tr>
</tbody>
</table>

Additional Thermal Resistance information for colder temperatures is available at www.korolite.com.

6. AVAILABILITY
Korolite® EPS insulation is supplied from Surrey BC through our extensive distribution network. For product availability or to get in touch with your local distributor, call Airfoam at 800.663.8162 or +1.604.534.8626.

7. WARRANTY

8. MAINTENANCE
No maintenance is required in normal use. EPS insulation that became wet can be dried out within reasonable times per ASTM C1512 tests using adequate drainage and/or ventilation.

9. TECHNICAL SERVICES
Airfoam can provide technical information and support to help address questions when using Korolite® EPS insulation. Technical personnel are available to assist with any insulation project. For technical assistance, contact Airfoam at: Online: www.airfoam.com/EPS-Insulation-Support.php Phone: 800.663.8162 or +1.604.534.8626 Fax: +1.604.534.1212

Recycling: Expanded Polystyrene (EPS) can be recycled for reuse in a variety of different applications, from construction and landscaping to packaging and park benches. Airfoam Industries Ltd. is a registered Recycling Facility for EPS materials accepting recyclable #6 white Expanded Polystyrene (EPS) from our customers - free of charge, if it is clean, dry, and not mixed with any other materials.

10. FILING SYSTEM
Korolite® 160 EPS Technical Specifications filed at: www.airfoam.com

Please contact us for a free estimate or additional information: www.airfoam.com

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