DuPont™ Styrofoam™ Brand Panel Core 20 Freezer XPS Foam Insulation

High Performance Insulation for Walk-In Coolers and Freezers

FEATURES/BENEFITS

Description
DuPont™ Styrofoam™ Brand Panel Core 20 Freezer Extruded Polystyrene (XPS) Foam Insulation* was designed specifically for the walk-in cooler industry meeting specific regulations for this high performance market. It consists of a closed-cell, high performance core material featuring a proprietary extrusion process facilitating precise control of parameters like density, cell size and cell orientation. This process yields foam boards that can stand up to the most demanding and extensive array of composite panel applications.

Styrofoam™ Brand Panel Core 20 Freezer is supplied in sheets that have been carefully engineered and planed to precise tolerances for an exceptional bonding surface. The closed-cell structure of Styrofoam™ Brand Panel Core 20 resists absorption of water, which helps maintain panel integrity and insulating properties in low temperature applications and other environments with high humidity and moisture conditions. And though the insulation bonds well with adhesives, less adhesive is absorbed by the foam - meaning less glue is required for effective, long-lasting adhesion of facer materials.

Available Sizes
Styrofoam™ Brand Panel Core 20 Freezer Insulation is available with straight edge treatment in nominal board thicknesses of 4", board lengths up to 216" and board widths up to 50" for the walk-in cooler market. Not all product sizes are available in all regions.

Ease of Use
Styrofoam™ Brand Panel Core 20 Freezer Insulation is strong, yet lightweight and easy to fabricate into various sizes and shapes to meet specific design needs. Styrofoam™ Brand Panel Core 20 sheets:

- Have been carefully engineered and planed to precise tolerances
- Provide an exceptional bond surface
- Resist water absorption
- Help maintain panel integrity and insulating properties in low-temperature, high-humidity and high-moisture conditions
- Bonds well with adhesives but does not absorb them, resulting in less wasted glue

Sustainable Solutions
Styrofoam™ Brand Panel Core 20 Freezer Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free** with zero ozone depletion potential. Styrofoam™ Brand insulation products produced in North America contain an average of 20% pre-consumer recycled content certified by UL Environment Inc.

PROPERTIES

Styrofoam™ Brand Panel Core 20 Freezer Insulation exhibits physical properties as indicated in Table 1 when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-866-583-2583 when additional guidance is required for writing specifications that include this product.

* Styrofoam™ Brand Panel Core 20 is a former product of The Dow Chemical Company

** manufactured without hydrochlorofluorocarbon
TABLE 1: Physical Properties of Styrofoam™ Brand Panel Core 20 Freezer XPS Foam Insulation

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Property</th>
<th>Typical Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM D1622</td>
<td>Density</td>
<td>18</td>
<td>lb/ft³</td>
</tr>
<tr>
<td>ASTM D1621</td>
<td>Compressive Strength¹</td>
<td>20</td>
<td>psi, min., vertical</td>
</tr>
<tr>
<td>ASTM D1623</td>
<td>Tensile Strength</td>
<td>50</td>
<td>lb/in², min., vertical</td>
</tr>
<tr>
<td>ASTM C273</td>
<td>Shear Strength</td>
<td>25</td>
<td>lb/in², min.</td>
</tr>
<tr>
<td>ASTM C273</td>
<td>Shear Modulus</td>
<td>300</td>
<td>lb/in², min.</td>
</tr>
<tr>
<td>ASTM C203</td>
<td>Flexural Strength</td>
<td>40</td>
<td>lb/in², min., extruded</td>
</tr>
<tr>
<td>ASTM C203</td>
<td>Flexural Modulus</td>
<td>1500</td>
<td>lb/in², min., extruded</td>
</tr>
<tr>
<td>ASTM C272</td>
<td>Water Absorption</td>
<td>0.1</td>
<td>% by vol., max</td>
</tr>
<tr>
<td>ASTM E96</td>
<td>Water Vapor Permeance²</td>
<td>15</td>
<td>perm, max</td>
</tr>
<tr>
<td>ASTM C578</td>
<td>R-Value²</td>
<td>72 **</td>
<td>–</td>
</tr>
<tr>
<td>ASTM C578</td>
<td>per inch (25 mm), °F•ft²•h/Btu, fresh @ 55°F (35°C) min.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>per inch (25 mm), °F•ft²•h/Btu, fresh @ 20°F (-7°C) min.</td>
<td>80 **</td>
<td>–</td>
</tr>
<tr>
<td>ASTM E84</td>
<td>Surface burning characteristics³</td>
<td>15</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Flame Spread Index</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoke Developed Index</td>
<td>165</td>
<td></td>
</tr>
</tbody>
</table>

¹ Vertical compressive strength measured at 10 percent deformation or at yield, whichever occurs first.
² R means resistance to heat flow. The higher the R-value, the greater the insulating power.
³ This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
⁴ Actual water vapor permeance for 1" thick material. Value decreases as thickness increases.
⁵ Properties shown are representative values for 1" thick material.
⁶* Properties shown are representative values for 1" thick material.
⁷** Per DOE-10 CFR Appendix B to Subpart R of Part 431. For foam produced as board stock “final chemical form” means after extrusion and ready for assembly into a panel or after assembly into a panel.

** Testing **

**Applicable Standards**

Styrofoam™ Brand Panel Core 20 Freezer Insulation complies with ASTM C578 Type X.

**Code Compliances**

Styrofoam™ Brand Panel Core 20 Insulation complies with the following code(s):

- UL Classified, See Classification Certificate D369

Contact your local DuPont sales representative or local authorities for state and local building code requirements and related acceptance.

**Warranty**

In the United States, a 50-year thermal limited warranty is available on Styrofoam™ Brand insulation products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Visit building.dupont.com/warranties or contact your DuPont representative for details.

**Handling**

**WARNING: For Professional Use Only.** Read and follow the entire Handling section and the Safety Data Sheets (SDSs, formerly MSDSs or Material Safety Data Sheets) carefully before use. The information below is designed to protect the user and allow for safe use and handling of Styrofoam™ Brand products. Follow all applicable federal, state, local and employer regulations.

**Precautionary Statements**

- Styrofoam™ Brand Panel Core 20 Freezer Insulation is combustible; protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code.
- Like all cellular polymers, this product will degrade upon prolonged exposure to sunlight. A covering may be used to block ultraviolet radiation and prevent degradation. Other coverings to protect the foam from the elements and to meet applicable fire regulations may also be required.
- Due to the critical technical design aspects of many of its applications, DuPont recommends that qualified designers or consultants design your system.

- For more information on codes and compliances, consult SDS, call DuPont at 1-866-583-2583 or contact your local building inspector. DuPont can also offer general guidelines and recommendations for Styrofoam™ Brand Panel Core 20.

**Shelf Life and Storage**

When stored outdoors, keep insulation boards tarped or covered to protect from weather and weighted down to prevent boards from being blown around by the wind. Store above standing water.

**Disposal**

Dispose of any residual Styrofoam™ Brand product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.
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DuPont™ Styrofoam™ Brand Extruded Polystyrene Foam Insulation

CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult (Material) Safety Data Sheet (MSDS), call DuPont at 1-866-583-2583 or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3771 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product. Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including DuPont can give assurance that mold will not develop in any specific system.