Dow Corning® Vacuum Insulation Panel

Slender-profile, high-efficiency insulation system

Potential Benefits
- Create slim wall constructions with high R-value performance
- Significantly increase thermal resistance in space-limited situations
- Enable new design possibilities for zero-energy buildings
- Delay or eliminate need for triple-glazed windows
- Contribute to ASHRAE 90.1 performance requirements through energy modeling
- Contribute to green building rating systems such as LEED® – Dow Corning® Vacuum Insulation Panel has up to 95% pre-consumer recycled content in its core and post-consumer recycled content in its package

Product Forms
Dow Corning® Vacuum Insulation Panels are available in a variety of standard rectangular shapes and sizes:
- Thickness: 0.25-1.5 in (6.3-38 mm)
- Width and length: Up to 24 x 36 in (600 x 900 mm)
- Thin panel minimum bend radius: 6x panel thickness

Created to maximize usable floor area and provide high thermal performance, Dow Corning Vacuum Insulation Panel, which is silver (aluminum) in color, offers good compressive strength, good fire rating performance and very high R-value (up to R-39/inch).

Consider the Potential
- What new design possibilities are opened by a high R-value in a slim space?
- What existing issues may be eased by a high R-value in a slim space?
- What future designs can benefit from maximized usable floor area and high thermal performance?
**Insulation Material Information**

<table>
<thead>
<tr>
<th>Core</th>
<th>Dow Corning® Vacuum Insulation Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Thermal Conductivity, BTU/(hr<em>ft²°F) [W/(m²</em>K)]</td>
<td>0.00213 [0.00369]</td>
</tr>
<tr>
<td>R-Value, (hr<em>ft²°F)/BTU</em>in) [(m³<em>K)/(W</em>mm)] At 1 in (25 mm)</td>
<td>39 [6.9]</td>
</tr>
<tr>
<td>U-Value at 1 in (25 mm), BTU/(hr<em>ft²°F) [W/(m²</em>K)]</td>
<td>0.0256 [0.145]</td>
</tr>
<tr>
<td>Minimum Thickness to Achieve Passivhaus (U &lt; 0.15), in [mm]</td>
<td>1.0 [25.4]</td>
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<tr>
<td>Bulk Density, lb/Ft³ [kg/m³]</td>
<td>9.5-18 [150-300]</td>
</tr>
<tr>
<td>Maximum Service Temperature, °F [°C]</td>
<td>176 [80]</td>
</tr>
<tr>
<td>Compressive Stress at 10% Deformation, psi [kPa]</td>
<td>6.53-17.40 [45-120]</td>
</tr>
<tr>
<td>Reaction to Fire (ASTM E84-10)</td>
<td>Flamespread Index 25 Smoke Developed Index 20</td>
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</table>

*Thermal conductivity varies by specific grade of insulation for any given material family. Values shown represent typical values and are only provided for general comparison of families.

**Limitations**

- Careful handling is required to avoid damage
- Cutting panels will cause loss of vacuum and core material
- Loss of internal vacuum from damage or aging will result in increase of panel thermal conductivity to levels approximating aerogel insulation

The Dow Corning® Vacuum Insulation Panel (“VIP”) is a developmental product. User understands and acknowledges that VIP is subject to constant change and accuracy cannot be guaranteed. Determination as to the suitability or use of VIP is the sole responsibility of the recipient. VIP is provided AS IS, WITH ALL FAULTS, AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**For More Information**

*Dow Corning® Vacuum Insulation Panel* is a developmental product under development at Dow Corning. Contact your Dow Corning sales representative to learn more.