TR3

Thermally Conductive Pressure-Sensitive Transfer Adhesives

Saint-Gobain® ThermaCool® TR3 is a unique thermally conductive pressure-sensitive acrylic transfer adhesive. The adhesive is supplied with release liners on both sides for ease of converting. These materials provide an easy method for adding an adhesive layer to gap filler silicone materials and thermally conductive fabrics that are not supplied with an integral adhesive. The adhesive can also be used in place of mechanical fasteners to bond heat sinks to components.

**ThermaCool** TR3 is specially designed to provide the following features:

- Thermally conductive transfer adhesive provides ability to customize parts in the field
- Compliant conductive adhesive minimizes effects of surface roughness and improves thermal performance
- Adhesive formulation is designed to exhibit excellent thermal properties at application pressures as low as 10 psi
- Specifically formulated adhesive allows parts to be reworked without damage to sensitive components
- High peel strength adhesion to minimize air entrapment

**Available Sizes**

Standard thickness: .003 in. (0.076 mm)
Master roll size: Up to 40 in. wide. Length varies.

**APPLICATIONS**

- Replacement of mechanical fasteners
- Custom application of adhesives to gap fillers or thermally conductive fabrics
- Pressure-sensitive adhesive tape can be pre-applied to a heat sink to minimize assembly costs
- Adheres to various surfaces to create a pressure-sensitive laminate material
**ThermaCool TR3 - Properties**
Performance tests are run using standard test procedures. The values presented are typical values and should not be used for specification purposes.

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness: mil</td>
<td>ASTM D1000</td>
<td>3.0</td>
</tr>
<tr>
<td>Thermal Conductivity: W/mk</td>
<td>ASTM E1530</td>
<td>0.40</td>
</tr>
<tr>
<td>Thermal Impedance: °C in²/W</td>
<td>ASTM D1530 @ 10 psi</td>
<td>0.30</td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td>ASTM D1000</td>
<td>N/A</td>
</tr>
<tr>
<td>Adhesion to Steel: oz/in</td>
<td>ASTM D1000</td>
<td>30.0</td>
</tr>
<tr>
<td>Adhesion to liner: oz/in</td>
<td>ASTM D1000</td>
<td>Easy release</td>
</tr>
<tr>
<td>Operating Temperature Range (°F)</td>
<td>-</td>
<td>-20 to +300</td>
</tr>
</tbody>
</table>

**Important Instructions**
Because **Saint-Gobain** cannot anticipate or control every potential application, we strongly recommend testing of this product under individual application conditions prior to commercial use.

Surfaces must be clean and free of oil, grease, moisture, dust, and dirt. Isopropyl alcohol is good for cleaning the surface.

Apply a uniform pressure of 15 psi (103 kPa) to promote good contact between the material to be bonded and the tape. The service temperature should be between -20°F and +300°F (-28°C to +149°C).

The adhesion between the substrate and the tape increases with time, typically reaching final bond strength in 72 hours. Heating the product above 105°F (40°C) will accelerate the adhesion process.

**Shelf Life**
24 months after the date of manufacture when stored in original packaging at temperatures up to 95°F (35°C) and 70% relative humidity.