Since the beginning of time, people have looked up at the stars and longed to explore the world above them. For more than 60 years, Momentive has been part of the journey into space—providing the silicone in the boots of the first astronaut to walk on the moon—in the rockets that propelled those pioneers into orbit—and on every US manned space flight since. Building on the legacy of our past, Momentive continues to develop innovative silicones that help today’s aerospace pioneers reach ever greater heights. From launch to landing, Momentive’s advanced silicone products enable the next generation of space exploration.

**Key Features and Typical Benefits of Thermal Protection Silicones**

- Maintains critical properties for extended time over a wide range of extreme temperatures encountered by spacecraft from -130°C (-200°F) to 260°C (500°F)
- Remains flexible in the extreme low temperatures of space
- Excellent thermal insulation
- Low outgassing solutions to protect crew compartments and sensitive optical equipment from material contamination in extreme temperatures
- Very strong adhesion with primer to support structural integrity
- Electrically static dissipative solutions
- Room temperature cure
- Available in paste to flowable viscosities to accommodate a wide range of applications

**POTENTIAL APPLICATIONS**

- Cast in place heat shielding
- Adhesion of thermal blankets
- Protective coatings and thermal insulation for sensitive components and critical equipment
- Encapsulants & potting for high heat locations
- Interior & exterior adhesives
- Flexible composite coatings
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**THERMAL PROTECTION MATERIALS TYPICAL PRODUCT PROPERTIES**

<table>
<thead>
<tr>
<th>Product</th>
<th>Cure Types</th>
<th>Description</th>
<th>Work Life Time (hr)</th>
<th>Tensile (psi)</th>
<th>Tear Strength (Die B, Ib/in)</th>
<th>Elongation (%)</th>
<th>Hardness (Shore A)</th>
<th>Catalyst Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTV31</td>
<td>2P, Condensation</td>
<td>Red high temperature flowable sealant</td>
<td>2</td>
<td>870</td>
<td>29</td>
<td>54</td>
<td>170</td>
<td>YES</td>
</tr>
<tr>
<td>RTV60</td>
<td>2P, Condensation</td>
<td>Red high temperature flowable sealant</td>
<td>2</td>
<td>990</td>
<td>40</td>
<td>57</td>
<td>120</td>
<td>YES</td>
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<tr>
<td>RTV88</td>
<td>2P, Condensation</td>
<td>Red high temperature paste sealant</td>
<td>.8</td>
<td>830</td>
<td>42</td>
<td>58</td>
<td>120</td>
<td>YES</td>
</tr>
<tr>
<td>RTV511</td>
<td>2P, Condensation</td>
<td>White low temperature flowable capable sealant</td>
<td>1.5</td>
<td>380</td>
<td>21</td>
<td>42</td>
<td>170</td>
<td>YES</td>
</tr>
<tr>
<td>RTV560</td>
<td>2P, Condensation</td>
<td>Red low &amp; high temperature capable sealant</td>
<td>2.3</td>
<td>690</td>
<td>31</td>
<td>55</td>
<td>120</td>
<td>YES</td>
</tr>
<tr>
<td>RTV566</td>
<td>2P, Condensation</td>
<td>Low outgassing, red low &amp; high temperature capable sealant</td>
<td>1.5</td>
<td>800</td>
<td>–</td>
<td>56</td>
<td>120</td>
<td>NO</td>
</tr>
<tr>
<td>RTV567</td>
<td>2P, Condensation</td>
<td>Low outgassing, translucent and white low temperature paste capable sealant</td>
<td>2</td>
<td>440</td>
<td>38</td>
<td>48</td>
<td>150</td>
<td>NO</td>
</tr>
<tr>
<td>RTV577</td>
<td>2P, Condensation</td>
<td>White low temperature paste capable sealant</td>
<td>4</td>
<td>250</td>
<td>–</td>
<td>47</td>
<td>140</td>
<td>YES</td>
</tr>
<tr>
<td>RTV577LV</td>
<td>2P, Condensation</td>
<td>Low outgassing, white low temperature paste capable sealant</td>
<td>4</td>
<td>350</td>
<td>–</td>
<td>47</td>
<td>140</td>
<td>NO</td>
</tr>
<tr>
<td>RTV583</td>
<td>2P, Condensation</td>
<td>Black, electric static dissipative, low temperature paste sealant</td>
<td>1</td>
<td>360</td>
<td>–</td>
<td>48</td>
<td>120</td>
<td>NO</td>
</tr>
<tr>
<td>RTV655</td>
<td>2P, Addition</td>
<td>Clear, low temperature flowable sealant, unlimited cure depth with the ability to cure at RT</td>
<td>4 @ 23°C 0.25 @ 150°C</td>
<td>920</td>
<td>–</td>
<td>44</td>
<td>44</td>
<td>NO</td>
</tr>
</tbody>
</table>

Typical data are average data and are not to be used as or to develop specifications.

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**EXTREME HIGH AND LOW TEMPERATURE PRODUCT LINE**

- **260˚C** - **-54˚C** - **205˚C** - **260˚C** - **205˚C**

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Silicone RTVs For Thermal Protection Systems