Dow Corning® 3-82XX Silicone Foams for Compression Gaskets

Boosting Manufacturing Productivity and Product Performance

As global competition increases, manufacturers face greater demands for products that deliver high performance, long-lasting durability, greener solutions and lower costs.

Those challenges force manufacturers to find innovative solutions at every step — component design, material selection and manufacturing. Our family of silicones for foamed-in-place gaskets last longer and are more versatile and durable than organic polymer sealants — offering you long-lasting, flexible seals that are more efficient to produce.

*Dow Corning*® brand silicone foams use a hybrid technology. While they are nominally a room-temperature vulcanization (RTV) technology, they use an addition cure mechanism which is typical for high-temperature vulcanization (HTV) products. Silicone foams are designed to be dispensed and cured directly on parts to form an integrated compression gasket.

**Find the Foam that Fits Your Function**

*Dow Corning* offers you a range of silicone foam products, helping you find one that meets your application needs and helps reduce suppliers and costs. The product line includes a variety of foam densities as well as flowable and reduced flowable foams, which gives you greater control over foaming height relative to flat or inclined surfaces.

Silicone foams from *Dow Corning* generally have low compression set, which means they recover their original shape after being compressed. Like other silicone-based elastomers, silicone foams maintain their resiliency over a broad temperature range and resist permanent compression set.

### Typical Properties of Dow Corning® Brand Silicone Foams

<table>
<thead>
<tr>
<th>Product Property</th>
<th>Dow Corning® 8257 Silicone Foam</th>
<th>Dow Corning® 8257 Black Silicone Foam</th>
<th>Dow Corning® 3-8209 Silicone Foam</th>
<th>Dow Corning® 3-8219 RF Silicone Foam</th>
<th>Dow Corning® 3-8259 RF Silicone Foam</th>
<th>Dow Corning® 3-8259 RF Dark Grey Silicone Foam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity (mPas)</td>
<td>A: 21,000 B: 12,000</td>
<td>A: 20,000 B: 12,000</td>
<td>A: 14,000 B: 15,000</td>
<td>A: 21,000 B: 40,000</td>
<td>A: 68,000 B: 63,000</td>
<td>A: 64,000 B: 62,000</td>
</tr>
<tr>
<td>Snap time (sec)</td>
<td>230</td>
<td>240</td>
<td>220</td>
<td>200</td>
<td>200</td>
<td>200</td>
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<tr>
<td>Tack free time (min)</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
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<tr>
<td>Density (kg/m³)</td>
<td>140</td>
<td>150</td>
<td>250</td>
<td>300</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>Flowability (cm)</td>
<td>Flowable</td>
<td>Flowable</td>
<td>Flowable</td>
<td>Flowable</td>
<td>Flowable</td>
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<tr>
<td>Cell structure (Zellen/3cm)</td>
<td>35</td>
<td>30</td>
<td>Fine</td>
<td>Fine</td>
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<tr>
<td>Hardness Shore 00</td>
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<td>25</td>
<td>45</td>
<td>45</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>
Applications and Benefits
Two-part RTV silicone foams from Dow Corning are suitable for use to form a compression gasket or environmental seal against ambient air, splashed water, dust or moisture. They offer a cost-effective, alternative sealing solution to preformed gaskets and foam tapes in applications that require:

- Sealing of high-tolerance gaps
- Low sealing force and/or low modulus
- Damping of vibration or sound
- Automatic or robotic installation of gaskets
- High serviceability
- Fast cure at room temperature or low heat

Dow Corning® brand silicone foams are suitable for use nearly anywhere foam tapes are used. Typical applications include:

- Automotive lighting
- Housings for electric devices
- Timing belt covers
- Automotive “beauty covers”
- Door modules
- Ceramic hobs and their frame supports
- Outdoor lighting
- Gas boilers

More Efficient Manufacturing
Our silicone foams are designed for efficiency in processing. The two-part silicone RTV foam is dispensed — typically with a robotic applicator — directly on the part surface.

Robotic application of the fast-curing, two-part material not only makes manufacturing faster, the precision of application equipment contributes to a reduction of waste material. In many applications, silicone foams from Dow Corning can seal high-tolerance gaps with less material than standard sealing elastomers. Their light weight also helps reduce the total weight of the final product.

The two components of Dow Corning silicone foams can be mixed either in a static or dynamic mixer, offering you additional manufacturing flexibility. A dynamic mixer is recommended, however, because the type and degree of mixing and shear can affect the density, cure and cell structure of the finished foam.

How can we help you today?
When you need innovation, Dow Corning can help. Dow Corning® brand solutions are dedicated to meeting your needs for special materials, collaborative problem solving and innovation support. Learn how we can help you develop better solutions for your applications at dowcorning.com.