Consumer Solutions

DOWSIL™ 3-82XX Silicone Foams for Compression Gaskets

Boosting Manufacturing Productivity and Product Performance



Features and Benefits

- High UV stability means longer life span and excellent serviceability for components
- Excellent thermal, chemical and UV resistance
- Seals against air, water splashes, dust or moisture
- Dampens vibration and noise
- User-friendly, easy-to-handle 1:1 mix ratio
- Requires no external blowing agents
- Fast ambient temperature cure
- Low compression set that is retained at high service temperatures
- Stable and flexible over a wide temperature range
- Low-waste dispensing helps reduce excess material

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.

DOWSIL™ 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 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 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.

Applications and Benefits

Two-part RTV silicone foams from Dow 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

DOWSIL™ 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

Typical Properties of Silicone Foams from Dow

Product Property	SILASTIC™ 8257 Silicone Foam	SILASTIC™ 8257 Black Silicone Foam	DOWSIL™ 3-8209 Silicone Foam	DOWSIL™ 3-8219 RF Silicone Foam	DOWSIL™ 3-8259 RF Silicone Foam	DOWSIL™ 3-8259 RF Dark Grey Silicone Foam
Viscosity (mPas)	A: 21,000 B: 12,000	A: 20,000 B: 12,000	A: 14,000 B: 15,000	A: 21,000 B: 40,000	A: 68,000 B: 63,000	A: 64,000 B: 62,000
Snaptime (sec)	230	240	220	200	200	200
Tack free time (min)	8	8	7	6	7	6
Density (kg/m³)	140	150	250	300	330	330
Flowability (cm)	Flowable	Flowable	Flowable	17	15	16
Cell structure (Zellen/3 cm)	35	30	Fine	Fine	Fine	Fine
Hardness Shore 00	25	25	45	45	50	50

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.

Figure 1: Mixing the components produces a reaction that releases hydrogen gas as a foaming agent. The gasket expands in its liquid stage and cures to a foamed solid elastomer within 10 minutes at room temperature. This provides a low-modulus, integrated compression seal with fine, uniform cell structure.



Mixed & dispensed liquid components (no bubbles)

Expanded & cured solid (elastomer with bubbles)

The mixed components expand to create the gasket and cure rapidly. The foam is typically fully expanded and ready to handle within 10 minutes at room temperature. This cycle can be accelerated by elevating the temperature.

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 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 silicone foams from Dow 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.

Learn More

When you need innovation, Dow can help. DOWSIL™ 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 **consumer.dow.com**.

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