



Stockwell Elastomerics, Inc.

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High Performance Elastomeric Components and Materials



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Our Liquid Silicone Rubber Injection Molding Offers You Tight Dimensional Tolerances, Lower Component and Tooling Costs, and Fast Design-to-Production Cycles

We have expanded and improved our Liquid Silicone Rubber Molding capabilities by adding Cryogenic De-Flashing. Our new liquid nitrogen cryogenic de-flashing system removes parting line flash quickly – providing clean parting lines to ensure consistent sealing and aesthetics.

Our new Liquid Silicone Rubber Injection Molding capabilities

offer you the opportunity to take advantage of faster cure cycles, lower tooling costs, and consistent quality. This is of particular importance for low durometer (10 to 40 shore A) and very thin cross-section seals for plastic covers and housings where tight tolerances for installation during assembly and sealing are critical.

Liquid silicone rubber's ability to

flow readily simplifies tooling design, resulting in lower tooling costs. A relatively short cure cycle contributes to reduced component cost.

By thin cross-section seals we mean down to .030" in cross-section diameter, or other fine cross sections such as rectangular or two "O" ring configurations side by side.

Another important capability of liquid silicone rubber is that even when the perimeter of the seal has a number of turns and radii, liquid silicone rubber can still fill the cavity.

This is a familiar need where the seal has to run around closure screws. A standard round "O" ring may be unable to follow such turns. Seals molded to match the turns in the sealing groove aid in assembly and sealing reliability.

Liquid silicone rubbers have some of the same unique characteristics as gum silicones:

- Low Temperature Flex
- High Temperature Stability
- Excellent Weatherability
- UV Resistance

Given the many performance and cost advantages of the liquid injection molding process for liquid silicone rubbers, it's not surprising that applications have expanded beyond seals to include diaphragms, valves, bellows, bumpers, isolators, and grommets.

Liquid Silicone Rubber Injection Molded Parts

Custom injection molded silicone rubber components, in standard formulations and UL Flame Rated compounds, are being specified in a growing number of industries, performing a variety of critical functions.

Typical Applications Include:

- **Environmental Seals in Hand-Held Communications Devices and Sensors.**
- **Strain Reliefs and Grommets in Electrical/Electronic Equipment.**
- **Shock Isolators and Gaskets in Laboratory and Medical Diagnostic Equipment.**

The low viscosity of most liquid silicone rubber compounds allows the material to flow through the cavity quickly and completely. This permits molding capability even if the perimeter of the molded part contains a number of turns and radii.

Liquid silicone injection molding also produces tight tolerances in cross sectional dimensions, **and allows for the consistent production of very thin cross-section silicone rubber parts, as thin as .030" diameter.**

Typically Specified Liquid Silicone Rubber (LSR) Compounds Available* from Stockwell Elastomerics

Stockwell LSR Compound	Durometer Shore A	Tensile Strength, PSI	Elongation at Break, %	Tear Strength PPI of Width	Compression Set, % (22 hrs @ 158° F)	General Characteristics
SE2010	10	400	500	30	< 10	Very soft , for low pressure gaskets with minimal closure force.
SE2020	20	725	900	55	< 5	Soft , for seals with minimal closure force.
SE2030	30	1085	800	85	< 5	Mechanical Grade
SE2040	40	1230	850	140	< 5	Mechanical Grade , meets UL94HB
SE2050	50	1230	700	170	< 5	Mechanical Grade , meets UL94HB
SE2060	60	1300	500	170	< 5	Mechanical Grade , meets UL94HB
SE2070	70	1230	400	170	< 5	Mechanical Grade

Notes: Durometer Shore A is measured per ASTM D2240. Tensile Strength and Elongation % are measured per ASTM D412. Compression Set is measured per ASTM D395, after 22 hrs @ 158° F. (Most sealing requirements for our LSR molded components need to perform in a range of -20° F to 158° F. Let us know if you require test data beyond this temperature range. Data taken from non-postcured silicone.)

* Other Compounds also Available, Call for Details.

We Can Help You!

By quickly and expertly producing the silicone rubber components for your existing product designs, and also by helping you develop the best component design for new applications.

Our In-House Silicone Manufacturing Capabilities Include:

- **Custom Rubber Molding** of Silicone and Other Specialty Elastomers.
- **Die Cutting of Gaskets**, Cushioning Pads, and Insulators
- **Application** of a Broad Selection of **Pressure Sensitive Adhesives**
- **Custom Laminations** of Films and Solid Silicone onto Sponge.
- **Slitting to Width** of Roll Materials into Tape and Strip Gasketing.

Typical Component Functions

- **Environmental Gasketing**
- **Heat Sealing/Non-Stick Surface**
- **Cushioning**
- **Vibration Damping**
- **Electro-Static Discharge**
- **Fire and Smoke Blocking**

These points are the most common functional and performance considerations of silicone rubber, and are offered as guidelines only. If your new product calls for other performance factors not shown here, just tell us about your concerns, and let us know how your component will be used. Together, we will determine the best suited materials, and manufacturing processes to provide cost effective components for your product design.



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