Product Information

DOW CORNING

Fluorosilicone Liquid Silicone Rubbers

Dow Corning® 5-8601 Fluorosilicone Liquid Silicone Rubber

FEATURES

- Solvent, chemical, and fuel resistance
- High-temperature stability

COMPOSITION

- Fluorosilicone liquid silicone rubber

A fluorosilicone rubber designed for liquid injection molding

APPLICATIONS

- Solvent and chemically resistant molded parts
- Electrical/electronic connectors
- Extrusion onto wires, belts, fabrics, and other surfaces
- Thin, high-precision coatings
- Intricate parts with close tolerances
- Chemical environments and industrial applications

TYPICAL PROPERTIES[1]

Specification Writers: Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

As Supplied:			
Color			
Part A			Translucent
Part B			Red
Extrusion Rate, 3.2-mm (1/8-inch) nozzle at 0.63 MPa (90 psi), grams per minute			125

Test	**Unit**	**Results**	
Physical Properties, As Molded— 5 minutes at 171°C (392°F)			
Post Cured at 200°C (392°F)		**4 Hours**	**8 Hours**
Specific Gravity		1.3	1.3
Durometer, Shore A	points	45	45
Tensile	MPa (psi)	6.2 (900)	6.2 (900)
Elongation	%	350	350
Tear, Die B	kN/mm (ppi)	19 (110)	20 (115)
Bashore Resilience	%	42	42
Linear Shrinkage	%	4.2	4.2
Electrical Properties, As Molded— 30 seconds at 200°C (392°F)			
Dielectric Strength, air	volts/mil		400
Arc Resistance	seconds		200
Fluid Resistance, ASTM D 471—Volume Swell	**%**		
JP-4 Fuel	24 hours/24°C (75°F)		66
JP-5 Fuel	70 hours/25°C (77°F)		30
JP-8 Fuel	70 hours/24°C (75°F)		37
Reference Fuel B	24 hours/24°C (75°F)		154
Gasoline	18 hours/24°C (75°F)		144
Skydrol 500	48 hours/70°C (158°F)		18
Skydrol LD-4	24 hours/70°C (158°F)		50
MIL-H-5606 Oil	24 hours/25°C (77°F)		19
IRM-902	24 hours/150°C (302°F)		3.0
IRM-903	24 hours/150°C (302°F)		12.8

[1]Properties were obtained on 1.78 mm-thick (0.70 inch) slabs.

DESCRIPTION

Dow Corning® 5-8601 Fluorosilicone Liquid Silicone Rubber is specifically designed for liquid injection molding. The product is supplied as a two-component, soft paste containing fluorosilicone. It heat cures to a 45 durometer material. The cured rubber product is moderately resistant to a wide variety of solvents and chemicals over a wide temperature range of -63° to 175°C (-82° to 347°F) under immersion conditions, and up to 225°C (437°F) in dry heat.

Significant product features include:

- Moderate fuel, oil, solvent and chemical resistance
- High tensile and high tear strength for excellent performance
- High and low temperature stability
- Solventless; 100 percent solids
- Convenient 1:1 mix ratio
- Rapid cure at elevated temperatures
- Long pot life (96 hours) at room temperature
- Excellent high temperature mold release

HOW TO USE

Mixing and De-airing

Dow Corning 5-8601 Fluorosilicone Liquid Silicone Rubber is a two-component material supplied as parts A and B, which should be combined in a 1:1 ratio. Part A is translucent and Part B is red, which allows easy identification and inspection of the mix.
Dow Corning 5-8601 Fluorosilicone Liquid Silicone Rubber can be applied by:

- Hand brushing onto a surface
- Extrusion coating onto a substrate
- Machine molding equipment

Dow Corning 5-8601 Fluorosilicone Liquid Silicone Rubber, Parts A & B, is delivered free of air entrapment. It is recommended that the two components be combined using process equipment that will not introduce air contamination. However, if the processing of the material results in entrapped air, as with hand mixing, a vacuum of 28 to 29 inches of mercury will sufficiently de-air small volumes of material in 15 to 20 minutes. Note that at this reduced pressure, the material will normally rise above its original volume before collapsing.

Pot Life

After the A and B components are mixed, *Dow Corning* 5-8601 Fluorosilicone Liquid Silicone Rubber will remain usable for at least 96 hours at room temperature. Refrigeration at lower temperatures will significantly extend the usable life after mixing.

Cure Rate

The cure time for *Dow Corning* 5-8601 Fluorosilicone Liquid Silicone Rubber is a function of cure temperature and the thickness and dimensions of the silicone material to be cured. *Dow Corning* 5-8601 Fluorosilicone Liquid Silicone Rubber, however, cures within seconds when heated to 150°C (302°F). The cure time for a particular part is determined by the time required to heat the silicone material to this temperature. Using injection molding equipment at a cure temperature of 200°C (392°F), the cure cycle for parts under 10 grams will range from 10 to 45 seconds.

Cure Inhibition

The cure mechanism of this product can be inhibited by amines, sulfur, tin complexes, and some peroxides. Care should be taken to avoid contamination that would lead to cure inhibition.

Clean-Up / Removal
Solvents such as *Dow Corning*® OS Fluids, mineral spirits, naphtha, toluene and xylene can be used to clean up uncured product. IPA can also be used, although it is less effective.

HANDLING PRECAUTIONS

Dow Corning 5-8601 Fluorosilicone Liquid Silicone Rubber, Parts A & B, contains no solvents and forms no byproducts during cure. Solvent removal is unnecessary and ventilation equipment can be minimized. Proper industrial handling practices should be used when mixing, molding, extruding, and post curing *Dow Corning* 5-8601 Fluorosilicone Liquid Silicone Rubber.

Trace amounts of highly toxic vapor trifluoropropionaldehyde (TFPA) may evolve if *Dow Corning* 5-8601 Fluorosilicone Liquid Silicone Rubber is heated in air above 149°C (300°F) or burned. Exposure limits have not been established. Consult an industrial hygienist and the Material Safety Data Sheet. Animal studies have shown TFPA to be highly toxic. If material is used above 149°C (300°F), provide adequate ventilation. In case of overheating or fire, evacuate the area.

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY CALLING YOUR GLOBAL DOW CORNING CONNECTION.

USABLE LIFE AND STORAGE

When stored at or below 32°C (90°F) in original, unopened containers, *Dow Corning* 5-8601 Fluorosilicone Liquid Silicone Rubber, Parts A & B, has a shelf life of 12 months from date of manufacture. Refer to product packaging for “Use By” date.

PACKAGING

Dow Corning 5-8601 Fluorosilicone Liquid Silicone Rubber is available in pail kits of 80 lb / 36 kg (40 pounds each of A & B) and drum kits of 900 lb / 409 kg (450 lb each of A & B). Evaluation sample kits of 2 lb / 0.9 kg (1 lb each of A & B) are also available.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses. Not for human injection

WARRANTY INFORMATION—PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer’s tests to ensure that Dow Corning’s products are safe, effective, and fully satisfactory for the intended end use.

Dow Corning’s sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express of implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

Printed in USA
Form No. 45-158B-01
99AMPM372
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