

MED-5440

Liquid injection molding fluorosilicone liquid silicone rubber

DESCRIPTION

- Two-part, translucent fluorosilicone elastomer
- 100 mole % fluorosilicone
- Cures with heat via addition-cure chemistry
- 1:1 Mix Ratio (Part A: Part B)

APPLICATION

- For the injection molding of parts requiring a material with a medium durometer including: molded rubber stoppers, gaskets, seals, valves, o-rings and other precision parts
- Suitable for over-molding applications
- For applications requiring resistance to solvents, oils and dimethyl silicone fluids

NuSil™ MED-5440 may be considered for use in human implantation for a period of greater than 29 days.

PROPERTIES

| Typical Properties | Average Result | Standard | NT-TM |
|---|---------------------|-------------------------|-------|
| Uncured: | | | |
| Appearance | Translucent | ASTM D2090 | 002 |
| Extrusion Rate**, Part A | 40 g/min | ASTM C603 | 033 |
| Extrusion Rate**, Part B | 40 g/min | ASTM C603 | 033 |
| Work Time | >24 hours | - | 008 |
| Cured: 30 minutes at 150°C (302°F) | | | |
| Specific Gravity | 1.38 | ASTM D792 | 003 |
| Durometer, Type A | 30 | ASTM D2240 | 006 |
| Tensile Strength | 1,250 psi (8.6 MPa) | ASTM D412 | 007 |
| Elongation | 380% | ASTM D412 | 007 |
| Tear Strength | 60 ppi (10.6 kN/m) | ASTM D624 | 009 |
| Tissue Culture (Cytotoxicity Testing) | Pass | USP <87> ISO 10993-5 | 061 |

| Typical Properties | Average Result | Standard | NT-TM |
|------------------------------------|----------------|-----------|-------|
| Elemental Analysis of Trace Metals | Pass | ASTM E305 | 131 |

The above properties are tested on a lot-to-lot basis. Do not use as a basis for preparing specifications. Please [contact](#) NuSil Technology for assistance and recommendations in establishing particular specifications.

** Performed using a Semco model 250-A pneumatic gun with a 1/8" nozzle orifice and 90 +/- 5 psi air pressure.

INSTRUCTIONS FOR USE

Mixing

Combine Part A and Part B in a 1:1 mix ratio prior to use. Airless mixing, metering or dispensing equipment is recommended for production operations. If mixing by hand, take care to minimize air entrapment.

Vacuum Deaeration

Remove air entrapped during mixing by common vacuum deaeration procedure, observing all applicable safety precautions. Slowly apply full vacuum to a suitable container of at least four times the volume of material being de-aired. Hold vacuum until bulk deaeration is complete.

Substrate Considerations

Cures in contact with most materials common to biomedical assemblies, exceptions include: sulfur-cured organic rubbers, latex, chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents.

Vulcanization

Curing of the blended elastomer is accelerated by heat. The pre-measured catalyst provides a fixed cure rate. Do not attempt to change molding times by mixing the two components in any other than a 1:1 ratio, as this will affect the properties of the elastomer. Only temperature adjustments should be employed to alter the rate of cure.

Note: Some bonding applications may require the use of a primer. NuSil Technology's MED1-161 is suggested. For more information on primer selection, visit www.nusil.com and review [Choosing a Silicone Primer/Adhesive System](#).

FDA MASTER FILE

A Master File for MED-5440 has been filed with the U.S. Food and Drug Administration. Customers interested in authorization to reference the Master File must contact NuSil Technology.

Packaging

50 mL Side-by-Side Kit
400 mL Side-by-Side Kit
2 Pint Kit (910 g)
2 Gallon Kit (7.28 kg)
10 Gallon Kit (36.4 kg)

Warranty

12 Months

REACH COMPLIANCE

Please [contact](#) NuSil Technology's Regulatory Compliance department with any questions or for further assistance.

SPECIFICATIONS

Do not use the properties shown in this technical profile as a basis for preparing specifications. Please [contact](#) NuSil Technology for assistance and recommendations in establishing particular specifications.

WARRANTY INFORMATION

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NuSil Technology has tested this material only to determine if the product meets the applicable specifications. (Please [contact](#) NuSil Technology for assistance and recommendations when establishing specifications.) When considering the use of NuSil Technology products in a particular application, review the latest Material Safety Data Sheet and [contact](#) NuSil Technology with any questions about product safety information.

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