

SIL-5970

Liquid silicone rubber

DESCRIPTION

- Two-part, translucent silicone system designed for use with injection molding equipment
- Rapid cure with no post-cure required
- 1:1 Mix Ratio (Part A: Part B)

APPLICATION

- For the injection molding of parts requiring a material with a high durometer including: molded rubber stoppers, gaskets, seals, valves, o-rings and other precision parts
- Suitable for over-molding applications
- Can be used with NuSil's Healthcare color masterbatches for applications requiring colored silicones

NuSil™ SIL-5970 shall not 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	100 g/min	ASTM C603	033
Extrusion Rate**, Part B	100 g/min	ASTM C603	033
Work Time	> 72 hours	-	008
Cured: 5 minutes at 165°C (329°F)			
Specific Gravity	1.14	ASTM D792	003
Durometer, Type A	68	ASTM D2240	006
Tensile Strength	1,250 psi (8.6 MPa)	ASTM D412	007
Elongation	400%	ASTM D412	007
Tear Strength	225 ppi (39.6 kN/m)	ASTM D624	009
Stress at 200% Strain	900 psi (6.2 MPa)	ASTM D412	007

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.

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

Packaging

10 Gallon Kit (36.4 kg)
2 Drum Kit (360 kg)

Warranty

12 Months

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 over-molding 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](#).

REGULATORY STATUS

The tables below summarize the biological testing completed on the formulation components of this material:

TEST	STANDARD/METHOD	TEST RESULTS
USP and ISO Systemic Toxicity Study Extract*	ISO 10993-11 USP <88>	Nontoxic
ISO Intracutaneous Study Extract*	ISO 10993-10 USP <88>	Nonirritant
ISO Muscle Implantation Study 1 Week*	ISO 10993-6 USP <88>	Nonirritant

*Product meets USP Class VI test requirements

After being cured, post-cured for 2 hours at 150°C (302°F), and washed, this elastomer meets the extraction requirements of FDA regulation 21 CFR 177.2600 "Rubber Articles Intended for Repeated Use (Food Contact)." Please contact NuSil Technology LLC for a complete list of tests performed.

Please be advised, NuSil Technology SIL-5970's composition conforms to the list of materials in the German BfR Recommendation XV on Silicone for food contact (BfR-Empfehlungen XV zu Silicone).

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

The warranty period provided by NuSil Technology LLC (hereinafter "NuSil Technology") is 12 months from the date of shipment when stored below 40°C in original unopened containers. Unless NuSil Technology provides a specific written warranty of fitness for a particular use, NuSil Technology's sole warranty is that the product will meet NuSil Technology's then

current specification. NuSil Technology specifically disclaims all other expressed or implied warranties, including, but not limited to, warranties of merchantability and fitness for use. The exclusive remedy and NuSil Technology's sole liability for breach of warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. NuSil Technology expressly disclaims any liability for incidental or consequential damages.

WARNINGS ABOUT PRODUCT SAFETY

NuSil Technology believes, to the best of its knowledge, that the information and data contained herein are accurate and reliable. The user is responsible to determine the material's suitability and safety of use. NuSil Technology cannot know each application's specific requirements and hereby notifies the user that it has not tested or determined this material's suitability or safety for use in any application. The user is responsible to adequately test and determine the safety and suitability for their application and NuSil Technology makes no warranty concerning fitness for any use or purpose. NuSil Technology has completed no testing to establish safety of use in any medical application.

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.

Do not use any chemical in a food, drug, cosmetic, or medical application or process until having determined the safety and legality of the use. The user is responsible to meet the requirements of the U.S. Food and Drug Administration (FDA) and any other regulatory agencies. Before handling any other materials mentioned in the text, the user is advised to obtain available product safety information and take the necessary steps to ensure safety of use.

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