

MED-2045

High consistency silicone elastomer

DESCRIPTION

- A three-part system. Part A consists of a platinum-catalyzed high consistency base. Part B is a crosslinker and Part C is an inhibitor.
- MED-2045 is solvent-free but can be dispersed utilizing various solvents
- Cures with heat via addition-cure chemistry
- Has a non-tacky surface and no volatile by-products or peroxide residues
- Strained through a 400-mesh screen (minimum)
- 100: 0.7: 0.16 Mix Ratio (Part A: Part B: Part C)

APPLICATION

- For a wide variety of fabrication techniques for the healthcare industry including: molding, calendaring and extruding
- When dispersed, can be used to make membranes or cast films

NuSil™ MED-2045 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
Plasticity	95 mils (2.4 mm)	ASTM D926	058
Cured: 10 minutes at 171°C (340°F)			
Specific Gravity	1.16	ASTM D792	003
Post-Cured: 2 hours at 148°C (300°F). Stabilize for 3 hours minimum at ambient temperature and humidity.			
Durometer, Type A	40	ASTM D2240	006
Tensile Strength	1,490 psi (10.3 MPa)	ASTM D412	007
Elongation	790%	ASTM D412	007
Tear Strength	195 ppi (34.4 kN/m)	ASTM D624	009
Stress at 200% Strain	195 psi (1.3 MPa)	ASTM D412	007

Typical Properties	Average Result	Standard	NT-TM
Tissue Culture (Cytotoxicity Testing)	Pass	USP <87> ISO 10993-5	061
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.

INSTRUCTIONS FOR USE

If using as a dispersion, use mild mixing to disperse Part A in solvent at a higher concentration than the final desired concentration. Use aromatic or aliphatic solvents such as hexane, toluene, or xylene to prepare the dispersion. In addition to solubility, take into account flammability and toxicity when choosing a solvent. A typical solids concentration is 15% by weight. The user should determine the specific solvent and solids concentration to obtain optimum results.

Note: When using any solvent, always provide adequate ventilation and avoid eye and skin contact. Follow manufacturer's label instructions and refer to appropriate MSDS.

Disperse Part A of MED-2045 as follows:

- Soften the elastomer on a mill. Sheet the elastomer off the mill and cut into small pieces.
- Place the elastomer in a suitable mixing container and add just enough solvent to cover it completely. Cover the container and let it stand overnight at room temperature.
- Stir the resulting mass with a propeller-type mixer until a uniform consistency is obtained.
- When thoroughly dispersed, add solvent in small amounts, stirring thoroughly after each addition until the desired concentration or viscosity is obtained.

For optimum dispersion working time, add 0.16 parts by weight of Part C to 100 parts of Part A and mix thoroughly. Add 0.7 parts by weight of Part B to 100 parts of part A. Mix thoroughly to avoid localized concentrations. The work time of the mixture will depend on the solvent, solids content, temperature and storage conditions. When properly stored, a usable life of three months from the date of mixing is typical.

Appropriately filter the dispersion before use for best results. Always thoroughly mix the dispersion before use and take care to avoid solvent evaporation and air entrapment.

Packaging

1 Pound Kit (463 g)
5 Pound Kit (2.305 kg)
25 Pound Kit (11.495 kg)

Warranty

12 Months

The part being coated with the dispersion should be free of contamination, should not inhibit the cure, and should be able to withstand the cure cycle. Apply the dispersion by brushing, spraying or dipping. Control thickness by building up successive coats (1 to 2 mil). Allow the bulk of the solvent to evaporate between coats. When the desired thickness is obtained, set the mold or mandrel aside and allow the solvent to completely evaporate. Then cure in an air-circulating oven at a temperature not exceeding 210°C (410°F). The cure time will depend upon the oven temperature and the film thickness. The user must establish the cure cycle for a specific application (use 15 minutes at 160°C (320°F) as a starting point). The elastomer may be post-cured to stabilize and enhance physical properties.

Cure Inhibition

MED-2045 cures in contact with most materials. Exceptions include: butyl, latex, chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents.

Flammability

Observe adequate precautions when handling and storing Part C due to its volatility and flammability. Avoid prolonged breathing of vapors and contact with the eyes. When handling Part C, it is advisable to wear chemical splash goggles since the material can cause burns to the eyes if direct contact occurs.

Combustibility

Part B is combustible and should be stored in accordance with the instructions on the label.

FDA MASTER FILE

A Master File for MED-2045 has been filed with the U.S. Food and Drug Administration. Customers interested in authorization to reference the Master File must [contact](#) NuSil Technology.

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.

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