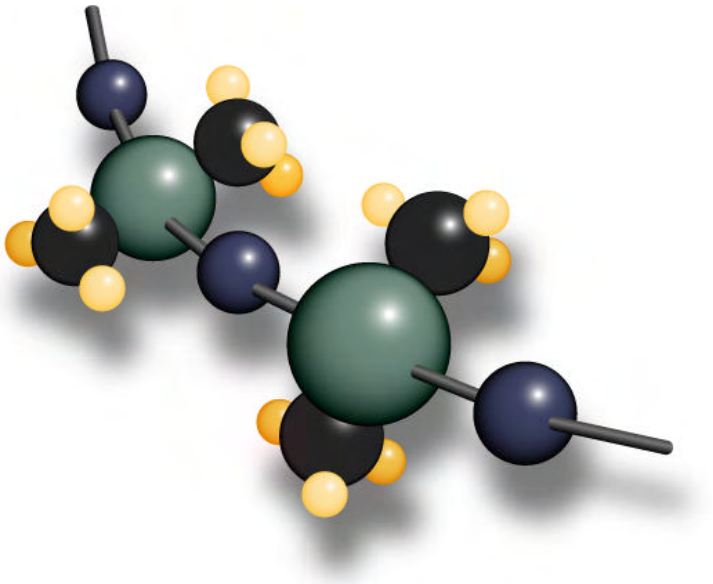
Polymer Systems Technology Limited

UK & Ireland Distributor

NuSil SILICONE TECHNOLOGY®
Creative Partners in a Material World

Unit 2. Network 4. Cressex Business Park,
Lincoln Road, High Wycombe, Bucks. HP12 3RF
Phone +44 (0) 1494 446610
Fax: +44 (0) 1494 528611
Web: http://www.siliconepolymers.co.uk
Email: sales@silicone-polymers.co.uk



MED-4528

Silicone Elastomer

SILICONE TECHNOLOGY
Creative Partners in a Material World

NuSil Technology
1050 Cindy Lane • Carpinteria, CA 93013
805/684-8780 • 805/566-9905 Fax
www.nusil.com

An ISO 9001 Certified Company

Product Profile

Description

- Uncatalyzed, vinyl-functional, high consistency silicone elastomer
- Requires the addition of a peroxide catalyst to accomplish vulcanization
- Low tack surface
- Strained through a 200-mesh screen (minimum) to ensure freedom from particulate contamination
- 100: 1.6 Mix Ratio (Base: Catalyst (PD-50S, MS-648))

Applications

- For extrusion and molding applications for the healthcare industry

Typical Properties	Result / Metric Conv.			ASTM	NT-TM
Uncured:					
Appearance		Translucent		D2090	002
Plasticity		71 mils / 1.8 mm		D926	058
	Catalyzed using 1.6 PPH of Percadox PD50-S, cured for 10 min @ 116°C and post -cured 2 hours @ 200°C	**Catalyzed using 1.0 PPH of Lupersol 101, cured for 10 min @ 177°C and post -cured 2 hours @ 200°C**	**Catalyzed using 1.0 PPH of Dicup R., cured for 10 min @ 150°C and post -cured 2 hours @ 200°C**		
Specific Gravity	1.11	1.11	1.11	D792	003
Durometer, Type A	25	25	25	D2240	006
Tensile Strength	1,075psi / 7.4 MPa	1,225 psi / 8.4 MPa	1,125 psi / 7.6 Mpa	D412, D882	007
Tear Strength	75 ppi / 13.2 kN/m	75 psi / 13.2 kN/m	55 psi / 9.7 kN/m	D642	009
Elongation, %	825%	875%	800%	D412, D882	007
Stress @ 100% Strain	60 psi/ 0.4 MPa	60 psi/ 0.4 MPa	65 psi / 0.4 MPa	D412, D882	007
Stress @ 200% Strain	90 psi / 0.6 MPa	85 psi / 0.6 MPa	100 psi / 0.7 MPa	D412, D882	007
Stress @ 300% Strain	130 psi / 0.9 MPa	135 psi / 0.9 MPa	150 psi / 1.0 MPa	D412, D882	007

Instructions for Use

The unvulcanized elastomer is a soft, translucent material that typically will crepe-harden with time. This phenomenon is reversible by "re-softening" the material on a two-roll mill. In general, freshly softened elastomers have better processing characteristics; therefore, milling to a smooth consistency before use is advised regardless of the age of the elastomer. Minimize heating the material when milling to prevent premature partial curing. After the material is softened, add the peroxide catalyst to the material and thoroughly mix using a two-roll mill.

The amount of peroxide needed for a given application cannot be determined accurately by theory or laboratory experiment. The most practical way to establish the correct amount of catalyst is to experiment using the elastomer and equipment that will be used for production. Several organic peroxides are suitable for vulcanizing this product. Contact NuSil Technology for information on catalyst selection.

Packaging

1 Pound (450 g)
5 Pound (2.27 kg)
25 Pound (11.38 kg)

Warranty

12 Months

Caution

During vulcanization, oven-curing, and post-curing, vapors containing polychlorinated biphenyl (PCB), and other residual volatile byproducts of vulcanization may be released in small amounts, which may be harmful. Work areas must be well ventilated, and workers should avoid inhalation of vapors. Review the Material Safety Data Sheets for specific information.

Molding
Mold by standard techniques of compression, transfer or injection molding. Molding cycle times depend on the mold temperature and cross-sectional thickness of the part. It is best to use highly polished, chrome-plated or stainless steel molds for these operations. Other polished metals will normally require release agents to prevent sticking. If using release agents, clean the parts prior to use.

Extrusion
Extrude the elastomer through an unheated die to make rod, tubing and coated wire. Accomplish vulcanization with this fabricating technique by passing the extrusion through a horizontal or vertical heated chamber. The residence time in the chamber varies with the size of the extrusion. For maximum uniformity, re-soften the elastomer on a two-roll mill the same day it is extruded.

Post-curing
The peroxide vulcanized elastomer contains 2,4-dichlorobenzoyl peroxide. The post-cure serves two purposes: post-curing removes the volatile components and other residuals generated from the decomposition of the peroxide during vulcanization, and post-curing stabilizes and enhances the physical properties of the elastomers.

Accomplish post-curing by heating the vulcanized material in a hot air circulating oven to a predetermined temperature for the required length of time. The oven must have an exhaust system of sufficient capacity to prevent volatiles from reaching an explosive level. The exhaust system should be vented so as to prevent worker exposure. The time required for post-curing at a given temperature depends upon the rate at which the volatiles can escape from the elastomer, which in turn depends upon the thickness of the part, the exposed surface area and the oven loading.

FDA Master Access File

A Master Access File for MED-4128 will be filed with the U.S. Food and Drug Administration. Customers interested in authorization to reference the Master Access File must contact NuSil Technology.

Warnings About Product Safety

NuSil Technology believes the information and the data contained herein are accurate and reliable. However, 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, obtain available product safety information and take the necessary steps to ensure safety of use.

Specifications

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

Patent Warning

NuSil Technology disclaims any expressed or implied warranty against the infringement of any patent. NuSil Technology does not warrant the use or sale of the products described herein will not infringe the claims of any United States' or other country's patents covering the product itself, its use in combination with other products or its use in the operation of any process.

Warranty Information

NuSil Technology's warranty period 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 any other expressed or implied warranty, including 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.