LS-6140

Low consistency elastomer

DESCRIPTION

- Two-part, optically clear silicone system
- Based on a methyl silicone polymer
- Low viscosity
- 1:1 Mix Ratio (Part A:B)

APPLICATION

- For bonding, casting or injection molding of high performance optical components
- For applications requiring index matching at 1.40
- For photonics applications requiring low outgassing and minimal volatile condensables to avoid condensation in sensitive devices

PROPERTIES

Typical Properties	Average Result	Metric Conv.	Standard	NT-TM
Uncured:				
Appearance	Colorless and Transparent	-	ASTM D2090	002
Viscosity, Part A	3,700 cP	3,700 mPas	ASTM D1084, D2196	001
Viscosity, Part B	2,550 cP	2,550 mPas	ASTM D1084, D2196	001
Work Time	3 hours	-	-	008
Tack-Free Time	6 hours	-	ASTM C679	005
Cured: 15 minutes at 150°C (302°F)				
Specific Gravity	1.02	-	ASTM D792	003
Durometer, Type A	50	-	ASTM D2240	006
Tensile Strength	850 psi	5.9 MPa	ASTM D412	007
Elongation	90%	-	ASTM D412	007
Lap Shear Strength (primed w/ LS1-3200)	200 psi	1.4 MPa	ASTM D1002	010
Coefficient of Linear Thermal Expansion, above Tg (-80 to 250°C)	400 ppm/°C	-	ASTM D3386	-
Refractive Index, 589 nm	1.40	-	ASTM D1747, D1218	018

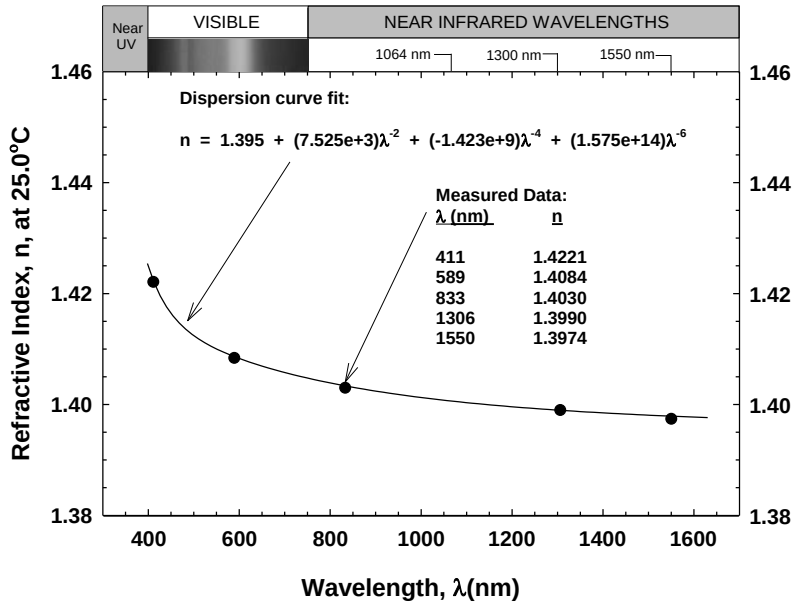
Version uploaded 23/12/2019

Typical Properties	Average Result	Metric Conv.	Standard	NT-TM
TGA Takeoff (1% weight loss)	353°C	-	-	-
Dielectric Strength	520 volts/mil	20.5 kV/mm	ASTM D149	-
Volume Resistivity	1 x 10^{15} ohm·cm	-	ASTM D257, D4496	040
Thermo-optic Coefficient	-3.36 x 10^{-4}/°C	-	-	-
Ionic content, Cl	<5ppm	-	-	-
Ionic content, K	<2ppm	-	-	-
Ionic content, Na	<4ppm	-	-	-
Refractive Index vs. Wavelength	See chart	-	-	-
Optical Absorption vs. Wavelength	See chart	-	-	-

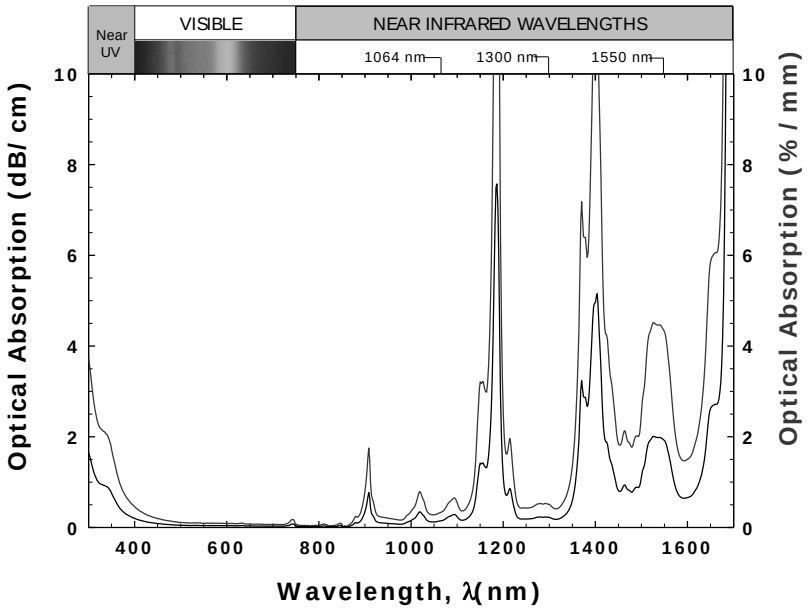
Refractive Index vs. Wavelength (25°C)

Lightspan Optical Thermoset

LS-6140



Optical Absorption vs. Wavelength (25°C)
Lightspan Optical Thermoset
LS-6140



INSTRUCTIONS FOR USE

Mixing

Thoroughly mix in a convenient 1:1 mix ratio by weight prior to use.

Vacuum Deaeration

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

Substrate Consideration

Cures in contact with most materials. Exceptions include butyl and chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents.

Note: Some bonding applications may require the use of a primer. NuSil Technology LS1-3200 silicone primer is recommended.

Packaging	Warranty
50 Gram Kit 50 ml SxS Kit 100 Gram Kit 500 Gram Kit 2 Pint Kit (910 g)	12 Months

Adjustable Cure Schedule

Product cures at a wide range of cure times and temperatures to accommodate different production needs. Contact NuSil Technology for details

OPERATING TEMPERATURE

The operating temperature range of a silicone in any application is dependent on many variables, including but not

Version uploaded 23/12/2019

limited to: temperature, time of exposure, type of atmosphere, exposure of the material's surface to the atmosphere, and mechanical stress. In addition, a material's physical properties will vary at both the high and low end of the operating temperature range. This type of silicone typically remains flexible at extremely low temperatures and has been known to perform at -50°C (-58°F) as well as resist breakdown at elevated temperatures up to 200°C (392°F). The user is responsible to verify optical and mechanical performance of a material in a specific application.

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.

PATENT / INTELLECTUAL PROPERTY WARNING

NuSil Technology disclaims any expressed or implied warranty against the infringement of any domestic or international patent/intellectual property right. NuSil Technology does not warrant the use or sale of the products described herein will not infringe the claims of any domestic or international patent/intellectual property right covering the product itself, its use in combination with other products, or its use in the operation of any process.

Version uploaded 23/12/2019

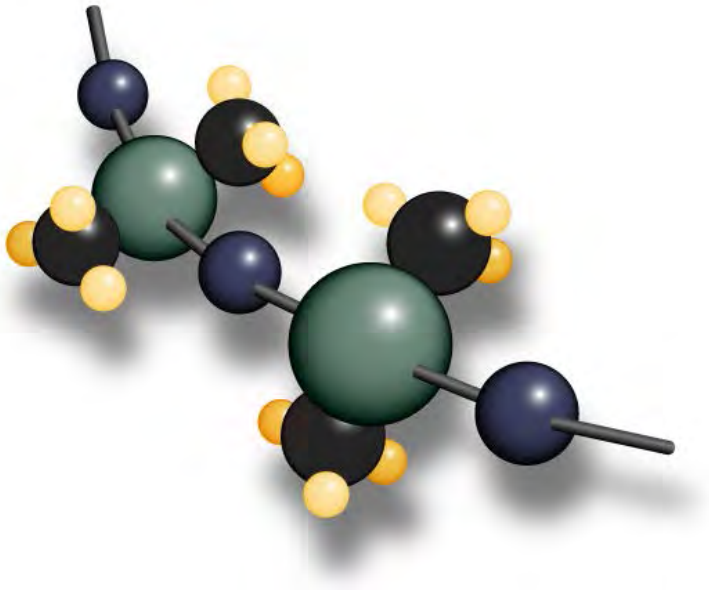
Silicone Sales & Services
UK - Ireland - Benelux

Unit 2. Network 4. Cressex Business Park,
Lincoln Road, High Wycombe, Bucks. HP12 3RF

tel: +44 (0) 1494 446610

web: https://www.silicone-polymers.com

email: sales@silicone-polymers.co.uk



Version uploaded 23/12/2019