

GEL-8170

High purity dielectric, medium to firm silicone gel

DESCRIPTION

- High purity, optically clear, medium to firm silicone gel
- Two components blend easily in a convenient 1:1 ratio by weight or volume

APPLICATION

- For potting, encapsulating, backfilling, and dampening applications requiring a firm gel with optical clarity
- For photonics applications including HBLED's, photo detectors, flat panel displays and tacking/staking sensitive joint
- For applications requiring an operating temperature range of -65°C to 200°C (-85°F to 392°F)

PROPERTIES

Typical Properties	Average Result	Metric Conv.	Standard	NT-TM
Uncured:				
Appearance	Translucent	-	ASTM D2090	002
Viscosity	600 cP	600 mPas	ASTM D1084, D2196	001
Cured: 90 minutes at 80°C (176°F)				
Penetration*	9 mm	-	ASTM DC-CTM 813	017
Dielectric Strength	500 volts/mil	19.7 kV/mm	ASTM D149	-
Dielectric Constant at 100 Hz	2.8	-	ASTM D924	-
Volume Resistivity	1 x 10 ¹⁵ ohm/cm	-	ASTM D257	040

The test data shown for this material is the average value for typical properties. All of these properties may not be tested on a lot to lot basis and cannot be used to draft specifications. Please [contact](#) NuSil® for assistance and recommendations in establishing limits for product specifications.

*GCA Precision Penetrometer, 19.5 gram shaft, 1 inch diameter, 5 seconds.

INSTRUCTIONS FOR USE

Mixing

Thoroughly mix Part A with Part B in a 1:1 mix ratio by weight or volume. Increase the ratio of Part A to Part B in the initial mix for a softer gel (high penetration value) and increase the ratio of Part B to Part A for a firmer gel (lower penetration value). Deviations from the 1:1 mix ratio may change cure rates. Airless mixing, metering and dispensing equipment is recommended for production processing.

Vacuum Deaeration

Removed air entrapped during mixing by common vacuum deaeration procedure, observing all applicable safety precautions. Slowly apply vacuum, up to 28 inches Hg, to a container rated for use and of volume at least four times that of material being deaerated. Hold vacuum until presence of air is no longer evident.

Substrate Consideration

Cures in contact with most materials, exceptions include: butyl and chlorinated rubber, some RTV silicones and unreacted residues of curing agents used with a few types of plastics.

Note: Some bonding application may require the use of a primer. NuSil CF1-135 silicone primer is recommended.

Adjustable Cure Schedule

Product cures at room temperature and a wide range of elevated temperatures and cure times to accommodate different production needs. [Contact](#) NuSil for details.

SPECIFICATIONS

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

WARRANTY INFORMATION

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

Packaging

2 Gallon Kit (7.28 kg)
10 Gallon Kit (36.4 kg)

Warranty

12 Months

purchase price or replacement of any product shown to be other than as warranted. NuSil expressly disclaims any liability for incidental or consequential damages.

WARNINGS ABOUT PRODUCT SAFETY

NuSil 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 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 makes no warranty concerning fitness for any use or purpose. NuSil has completed no testing to establish safety of use in any medical application.

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