

# Polymer Systems Technology Limited

UK & Ireland Distributor



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**NuSil Technology**

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An ISO 9001 Certified Company

# Product Profile

## MED-4810 Liquid Injection Molding Silicone Elastomer

### Description:

NuSil Technology MED-4810 Silicone Elastomer is a two-part, translucent, silicone system which is designed to be used with injection molding equipment. When properly cured, MED-4810 offers medium tear strength along with a 10 Shore A durometer. In addition it has good electrical properties and an operating temperature range of -65°C to 250°C (-85°F to 484°F).

The benefits of this material include:

- Rapid Cure
- Post-cure not required
- Less yellowing with aging
- Increased efficiency over transfer molding

### Applications:

MED-4810 is designed for applications requiring a 10 Shore A durometer. Some typical applications include potting and encapsulating of electronic devices and molded parts where a soft high strength material is desirable.

### Mixing:

MED-4810 Part A and Part B are supplied in a convenient 1:1 mix ratio for use with automatic mix and dispense equipment. If mixing is to be done by hand, care should be taken to minimize air entrapment during mixing.

### Vacuum Deaeration:

Air entrapped during mixing should be removed by common vacuum deaeration procedure, observing all applicable safety precautions. Apply full vacuum slowly to a container rated for use and of volume at least four times the volume of material to be deaerated. Hold vacuum until bulk deaeration is complete.

### Typical Properties as Supplied:

	<u>MED-4810</u>
Extrusion Rate, gpm	40
Chemical Classification	VMQ
Color	Translucent
Viscosity, cps Part A	600,000
Viscosity, cps Part B	500,000
Working Time (curing agent added), hours	6
Mix Ratio (by weight)	1:1

### Typical Properties:

Cured 5 min @ 150°C (302°F)

	<u>MED-4810</u>
Specific Gravity @ 25°C (77°F)	1.07
Durometer, Shore A	10
Tensile Strength, psi / MPa	900 / 6.2
Elongation, %	1200
Tear Strength, ppi. Die B / kN/m	75 / 13.1
Stress @ 200%, psi / Mpa	45 / .1

## Typical Cure Schedule:

<u>Temperature °C (°F)</u>	<u>Cure Time</u>
25C° (77F°)	Not Recommended
100C° (212F°)	30 Minutes
150C° (302F°)	5 Minutes

Cure rates are largely dependent on mold configuration and part size.

## Test Methods:

	<u>ASTM</u>	<u>NTM</u>
Specific Gravity	D792	003
Durometer Hardness	D2240	006
Tensile Strength, psi	D412	007
Elongation, percent	D412	007
Tear Strength	D624	009
Stress @ 100%, psi	D412	007

## Substrate Considerations:

MED-4810 will cure in contact with most materials. Exceptions include sulfur cured organic rubbers, latex, chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents.

## Packaging:

Slab  
Fifty ML Side by Side Kit  
Two Pint Kit  
Two Drum Kit

## FDA Master File:

A Master File for MED-4810 will be filed with the U.S. Food and Drug Administration. The Master File will contain the results of applicable chemical and mechanical equivalency tested as well as confirmatory biological testing. Customers interested in authorization to reference these files must contact NuSil Technology.

## Warnings About Product Safety:

NuSil Technology believes that the information and data contained herein is accurate and reliable; however, it is the user's responsibility to determine suitability and safety of use for these materials. NuSil Technology can not know the specific requirements of each application and hereby makes the user aware that it has not tested or determined

that these materials are suitable or safe for any application. It is the user's responsibility 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. There has been no testing done by NuSil Technology 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, you should review the latest Material Safety Data Sheets and contact NuSil Technology for any questions about product safety information you may have.

No chemical should be used in a food, drug, cosmetic, or medical application or process until you have determined the safety and legality of the use. It is the responsibility of the user 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, you should obtain available product safety information and take the necessary steps to ensure safety of use.

## Specifications:

The typical properties shown in this technical profile should not be used as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations in establishing particular specifications.

## Patent Warning:

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## Warranty Information:

NuSil Technology's warranty period is 6 months from date of shipment when stored below 40°C in

original unopened containers. Unless NuSil Technology provides you with 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 express or implied warranty, including warranties of merchantability and of fitness for use. Your 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, and NuSil Technology expressly disclaims any liability for incidental or consequential damages.