

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

MED-4820

Liquid Injection Molding Silicone Elastomer

Description:

NuSil Technology MED-4820 Silicone Elastomer is a two-part, translucent, silicone system which is designed to be used with injection molding equipment. When properly cured, MED-4820 offers medium tear strength along with a 20 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-4820 is designed for applications requiring a 20 Shore A durometer. Some typical applications include O-rings, gaskets and seals as well as molded balloons and catheter tips.

Mixing:

MED-4820 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-4820</u>
Extrusion Rate, gpm	75
Chemical Classification	VMQ
Color	Translucent
Working Time (curing agent added), hours	24
Mix Ratio (by weight)	1:1

Typical Properties:

Cured 5 min. @ 150°C (302°F)

	<u>MED-4820</u>
Specific Gravity @ 25°C (77°F)	1.12
Durometer, Shore A	20
Tensile Strength, psi / MPa	900 / 6.2
Elongation, %	850
Tear Strength, ppi. Die B / kN/m	150 / 26.3
Stress @ 200%, psi / MPa	70 / .5

Typical Cure Schedule:

<u>Temperature °C (°F)</u>	<u>Cure Time</u>
25°C (77°F)	Not Recommended

100°C (212°F) 30 Minutes
150°C(302°F) 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-4820 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
Two Pint Kit
Two Gallon Kit
Ten Gallon Kit
Two Drum Kit

FDA Master File:

A Master File for MED-4820 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 is 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:

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

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.