

### PRODUCT DESCRIPTION

LOCTITE® Product 5140 is a single component, non-corrosive, self-levelling, room temperature vulcanising (RTV) silicone sealant. This product cures when exposed to atmospheric moisture to form a tough rubber coating. The cured elastomer resists weathering, moisture and ozone, and retains its flexibility up to 200°C. Meets requirements of MIL-A-46146B Group I Type II.

### TYPICAL APPLICATIONS

Specifically formulated for potting, sealing and coating of electronic devices, especially for military, automotive and industrial electronics.

### PROPERTIES OF UNCURED MATERIAL

	Value	Typical Range
Chemical Type	Alkoxy Silicone Rubber	
Appearance	Clear Rubber	
Specific Gravity @ 25°C	1.05	
Viscosity @ 25°C, mPa.s (cP)		
Brookfield RVT, Method B		
Spindle 6 @ 2.5 rpm	85,000	30,000 to 140,000
@ 20 rpm	35,000	15,000 to 55,000

### TYPICAL PROPERTIES OF CURED MATERIAL

#### Physical Properties

(cured 7 days @ 50% RH & 23°C)		
Coefficient of thermal expansion, ASTM E831, /°C		2.93 x 10 <sup>-4</sup>
Tensile Strength, ASTM D412, N/mm <sup>2</sup>		2.8
(psi)		(400)
Elongation, ASTM D412, %		250
Hardness, ASTM D2240, Shore A		30
Water absorption, 24hrs. @ RT., ASTM D570, %		0.05
Tear (die B), ASTM D624, kN/m		17.5
(pli)		(100)
Non-volatile content, ASTM D2369, %		96
Water vapour transmission, ASTM E96, gram/hr./M <sup>2</sup>		1.5
Tack free time, minutes		165

#### Electrical Properties

	Constant	Loss
Dielectric constant & loss, ASTM D150, 25°C		
@ 100 Hz	3.05	0.015
@ 1 kHz	3.05	0.009
@ 1 MHz	3.05	0.0016
Volume Resistivity, ASTM D257, Ω.cm		7.0 x 10 <sup>16</sup>
Dielectric Strength, ASTM D149, kV/mm, 4mm film		16

### PERFORMANCE OF CURED MATERIAL

(cured 7 days @ 50% RH & 23°C)

Shear Adhesion Strength, ASTM D1002,		
Aluminium to Glass, N/mm <sup>2</sup>		1.7
(psi)		(250)
Steel to Glass, N/mm <sup>2</sup>		1.8
(psi)		(260)
Glass to Glass, N/mm <sup>2</sup>		1.7
(psi)		(250)

### TYPICAL ENVIRONMENTAL RESISTANCE

The following tests refer to the effect of environment on strength. This is not a measure of sealing performance.

#### Heat Resistance

(7 days @ 200°C)

Tensile strength, ASTM D412, N/mm <sup>2</sup>		1.8
(psi)		(260)
Elongation, ASTM D412, %		200
Hardness, Shore A, ASTM D2240		30

#### Hydrolytic Stability

(After 28 days @ 95°C & 98% RH)

Tensile strength, ASTM D412, N/mm <sup>2</sup>		1.7
(psi)		(250)
Elongation, ASTM D412, %		235
Hardness, Shore A, ASTM D2240		22

NOT FOR PRODUCT SPECIFICATIONS

THE TECHNICAL DATA CONTAINED HEREIN ARE INTENDED AS REFERENCE ONLY.

PLEASE CONTACT LOCTITE CORPORATION QUALITY DEPARTMENT FOR ASSISTANCE AND RECOMMENDATIONS ON SPECIFICATIONS FOR THIS PRODUCT.

ROCKY HILL, CT FAX: +1 (860)-571-5473

DUBLIN, IRELAND FAX: +353-(1)-451-9959

#### **GENERAL INFORMATION**

**This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidising materials.**

**For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).**

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

#### **Directions for use**

For best performance surfaces should be clean and free of grease or other contaminants. Full performance properties will develop over 72 hours. Moisture curing begins immediately after the product is exposed to the atmosphere, therefore parts to be assembled should be mated within a few minutes after the product is dispensed. Excess material can be easily wiped away with non-polar solvents.

In case of eye contact flush at least 15 minutes with water and seek medical attention. To avoid contact use the applicator nozzle provided.

#### **Storage**

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C to 28°C (46°F to 82°F) unless otherwise labelled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container. For further specific shelf life information, contact your local Technical Service Centre.

#### **Data Ranges**

The data contained herein may be reported as a typical value and/or range (based on the mean value  $\pm 2$  standard deviations). Values are based on actual test data and are verified on a periodic basis.

#### **Note**

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.