



LOCTITE® 5140™

November 2004

PRODUCT DESCRIPTION

LOCTITE® 5140™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Alkoxy silicone
Appearance (uncured)	Translucent milky white viscous liquid ^{LMS}
Components	One component - requires no mixing
Cure	Room temperature vulcanizing (RTV)
Application	Sealing or Coating
Specific Benefit	Non-corrosive
Self-leveling	Uniform cavity fill
Flexibility	Enhances load bearing & shock absorbing characteristics of the bond area.

LOCTITE® 5140™ is used for potting, coating and sealing of various automotive, electronic, military and industrial components. LOCTITE® 5140™ resists weathering, moisture, ozone and retains its properties through severe environments. This product is typically used in applications up to 200 °C.

Mil-A-46146B

LOCTITE® 5140™ is tested to the lot requirements of Military Specification Mil-A-46146B.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.05
Solids/Non-Volatile Content, %	≥92 ^{LMS}
Flash Point - See MSDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 6, speed 2.5 rpm	30,000 to 140,000 ^{LMS}
Spindle 6, speed 20 rpm	15,000 to 55,000 ^{LMS}

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 1 week @ 21 to 26 °C / 50±5% RH

Physical Properties:

Coefficient of Thermal Expansion, ASTM E 831, K ⁻¹	2.9×10 ⁻⁴
Shore Hardness, ISO 868, Durometer A	≥15 ^{LMS}
Elongation, ASTM D 412, %	≥150 ^{LMS}
Tensile Strength, ASTM D 412	N/mm ² ≥1 ^{LMS} (psi) (≥145)
Tear Strength, ASTM D 624, Die B	N/mm (17.5) (lb/in) (100)

Water Absorption, ISO 62, %:

24 hours in water @ 23 °C 0.05

Water Vapor Transmission Rate, ASTM E 96, g/(h·m²) 1.5

Electrical Properties:

Dielectric Breakdown Strength, ASTM D 149, kV/mm	16
Volume Resistivity, IEC 60093, Ω·cm	7×10 ¹⁶
Dielectric Constant / Dissipation Factor, IEC 60250:	
100 Hz	3.05 / 0.015
1 kHz	3.05 / 0.009
1 MHz	3.05 / 0.0016

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 1 week @ 23 °C / 50±5% RH

Lap Shear Strength, ISO 4587:

Aluminum to Glass	N/mm ² 1.7 (psi) (245)
Steel to Glass	N/mm ² 1.8 (psi) (260)
Glass to Glass	N/mm ² 1.7 (psi) (245)

TYPICAL ENVIRONMENTAL RESISTANCE

Heat Resistance

Cured for 1 week @ 200 °C

Shore Hardness, ISO 868, Durometer A	30
Elongation, ASTM D 412, %	200
Tensile Strength, ASTM D 412	N/mm ² 1.8 (psi) (260)

Hydrolytic Stability

Cured for 28 days @ 95 °C / 98% RH

Shore Hardness, ISO 868, Durometer A	22
Elongation, ASTM D 412, %	235
Tensile Strength, ASTM D 412	N/mm ² 1.7 (psi) (250)

GENERAL INFORMATION

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

Directions for use

1. For best performance bond surfaces should be clean and free from grease.
2. Full performance properties will develop over 72 hours.
3. 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.
4. Excess material can be easily wiped away with non-polar solvents.

Loctite Material Specification^{LMS}

LMS dated March 25, 1996. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Note

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Reference 1.1