

LOCTITE[®] SI 5399™

Known as LOCTITE[®] 5399™
December 2013

PRODUCT DESCRIPTION

LOCTITE[®] SI 5399™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Acetoxy silicone
Appearance (uncured)	Red paste
Components	One component - requires no mixing
Thixotropic	Reduced migration of liquid product after application to substrate
Cure	Room temperature vulcanizing (RTV)
Application	Bonding or Sealing

LOCTITE[®] SI 5399™ is generally used for sealing applications, but also for bonding and for high temperature protection. It is primarily used in industrial bonding/sealing applications, heating engineering, industrial ovens, household electrical and industrial heating equipment. This product is typically used in applications up to 350 °C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 20 °C	1.04
Extrusion Rate, g/min:	
Pressure 0.6 MPa, temperature 25 °C:	
3 mm Nozzle	250
Flash Point - See SDS	

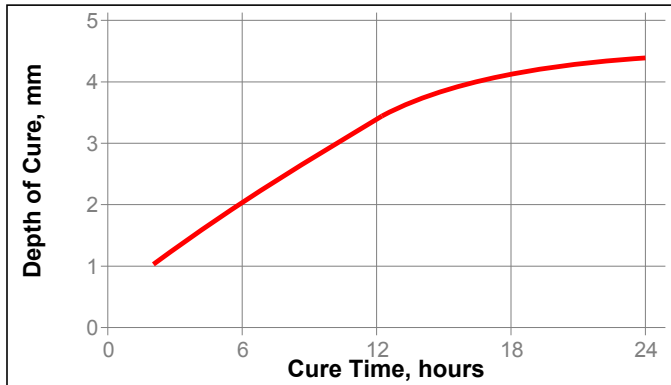
TYPICAL CURING PERFORMANCE

Surface Cure

LOCTITE[®] SI 5399™ becomes tack free on exposure to atmospheric moisture within 5 minutes at 23±2°C / 50±5%RH.

Depth of Cure

The graph below shows the increase in depth of cure with time at 23±2 °C / 50±5 % RH.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 1 week @ 25 °C

Physical Properties:

Shore Hardness, ISO 868, Durometer A	33
Elongation, at break, ISO 37, %	500
Tensile Strength, ISO 37	N/mm ² 3.3 (psi) (475)
Tensile Modulus, ISO 37	N/mm ² 0.8 (psi) (120)

Electrical Properties:

Volume Resistivity, IEC 60093, Ω·cm	7.3×10 ¹⁵
Dielectric Breakdown Strength, IEC 60243-1, kV/mm	23.3
Dielectric Constant, IEC 60250: 1 MHz	2.4

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 14days @ 25 °C

Lap Shear Strength, ISO 4587:

AG3 Aluminum test pieces(1 mm thick bondline)	N/mm ² 2.5 (psi) (360)
AG3 Aluminum test specimen(1 mm thick gasket)	N/mm ² 1.7 (psi) (250)
Alclad	N/mm ² 1.6 (psi) (230)
AG3 Aluminum test pieces(1 mm thick gasket)	(psi) (230)

TYPICAL ENVIRONMENTAL RESISTANCE

Typical Fluid Immersion Properties

Aged @ 150 °C for 70 hours:

Engine Oil:

Physical Properties:

Volume Swell, %	21
Shore Hardness, ISO 868, Durometer A	14
Tensile Modulus, ISO 37	N/mm ² 0.4 (psi) (60)
Tensile Strength, ISO 37	N/mm ² 1.65 (psi) (240)
Elongation, at break, ISO 37, %	590

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 oxidizing materials.

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

Directions for use:

1. For best performance bond surfaces should be clean and free from grease.
2. 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.
3. The bond should be allowed to cure (e.g. seven days), before subjecting to heavy service loads.
4. Excess material can be easily wiped away with non-polar solvents.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage

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

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °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

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

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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Reference 1.1