

LOCTITE® SI 5999™

Known as LOCTITE® 5999™
November 2018

PRODUCT DESCRIPTION

LOCTITE® SI 5999™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Oxime silicone
Appearance (uncured)	Grey paste ^{LMS}
Components	One component - requires no mixing
Thixotropic	Reduced migration of liquid product after application to substrate
Cure	Room temperature vulcanizing (RTV)
Application	Gasketing
Specific Benefit	Non-corrosive and Blow-out resistant

LOCTITE® SI 5999™ is intended for design, service, manufacture and rebuild applications, especially in automotive powertrain applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 20 °C	1.45
Solids/Non-Volatile Content, %	94
Flash Point - See SDS	
Extrusion Rate, g/min:	
Pressure 0.62 MPa, time 15 seconds, temperature 25 °C:	
Semco Cartridge	50 to 200 ^{LMS}

TYPICAL CURING PERFORMANCE

Surface Cure

Tack Free Time is the time required to achieve a tack free surface

Tack Free Time, minutes:	
Cured @ 25 °C / 50±5 % RH	≤30 ^{LMS}

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 1 week @ 25 °C / 50±5 % RH

Physical Properties:	
Shore Hardness, ISO 868, Durometer A	45 to 75 ^{LMS}
Elongation, ISO 37, %	≥100 ^{LMS}
Tensile Strength, ISO 37	N/mm ² ≥2.4 ^{LMS} (psi) (≥348)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Lap Shear Strength, ISO 4587:

Aluminum	N/mm ² 2.1 (psi) (300)
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TYPICAL ENVIRONMENTAL RESISTANCE

Typical Fluid Immersion Properties

Immersed @ 150 °C for 100 hours:

ASTM 3 oil:	
Shore Hardness, ISO 868, Durometer A	43
Elongation, ISO 37, %	160
Tensile Strength, ISO 37	N/mm ² 3.1 (psi) (450)

Gear oil:

Shore Hardness, ISO 868, Durometer A	47
Elongation, ISO 37, %	120
Tensile Modulus, ISO 37	N/mm ² 2.6 (psi) (375)

Immersed @ 110 °C for 100 hours:

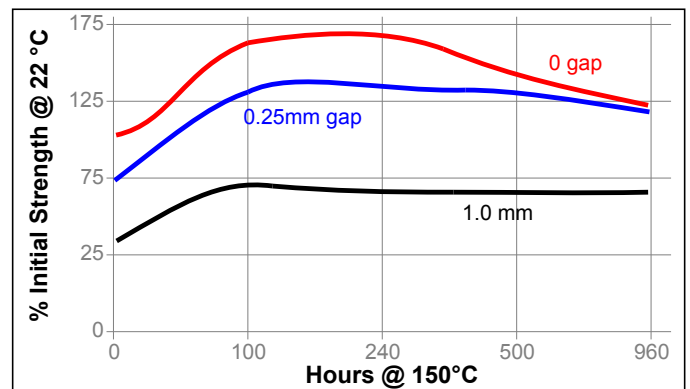
Coolant:	
Shore Hardness, ISO 868, Durometer A	40
Elongation, ISO 37, %	330
Tensile Strength, ISO 37	N/mm ² 2.1 (psi) (300)

Heat Aging

Aged at temperature indicated and tested @ 22 °C

Lap Shear Strength, ISO 4587:

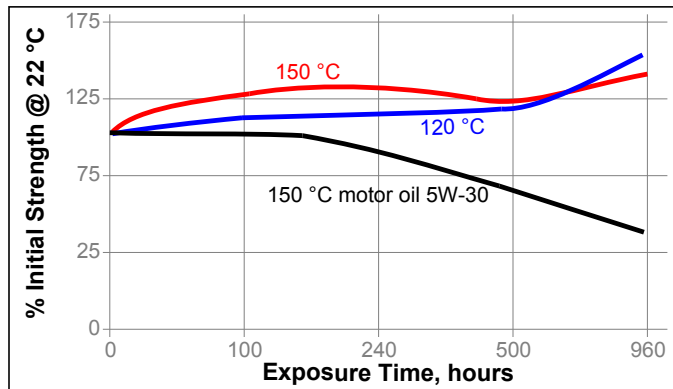
Aluminum



Heat Aging

Aged at temperature indicated and tested @ 22 °C

Tensile Strength, ISO 37

**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. 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.
5. For full automatic applications a volumetric dispensing system is recommended.

Loctite Material Specification^{LMS}

LMS dated October 16, 2001. 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: 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 1.3