# LOCTITE® 5999™

November 2004

## PRODUCT DESCRIPTION

LOCTITE® 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® 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 MSDS | |
| 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, ASTM D 2240, Durometer A | | 45 to 75[LMS] |
| Elongation, ASTM D 412, % | | ≥100[LMS] |
| Tensile Strength, ASTM D 412 | N/mm² | ≥2.4[LMS] |
| | (psi) | (≥348) |

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Adhesive Properties

| | | |
|---|---|---|
| Lap Shear Strength, ISO 4587: | | |
| Aluminum | N/mm² | 2.1 |
| | (psi) | (300) |

## TYPICAL ENVIRONMENTAL RESISTANCE

### Typical Fluid Immersion Properties

Immersed @ 150°C for 100 hours:

ASTM 3 oil:

| | | |
|---|---|---|
| Shore Hardness, ASTM D 2240, Durometer A | | 43 |
| Elongation, ASTM D 412, % | | 160 |
| Tensile Strength, ASTM D 412 | N/mm² | 3.1 |
| | (psi) | (450) |

Gear oil:

| | | |
|---|---|---|
| Shore Hardness, ASTM D 2240, Durometer A | | 47 |
| Elongation, ASTM D 412, % | | 120 |
| Tensile Modulus, ASTM D 412 | N/mm² | 2.6 |
| | (psi) | (375) |

Immersed @ 110°C for 100 hours:

Coolant:

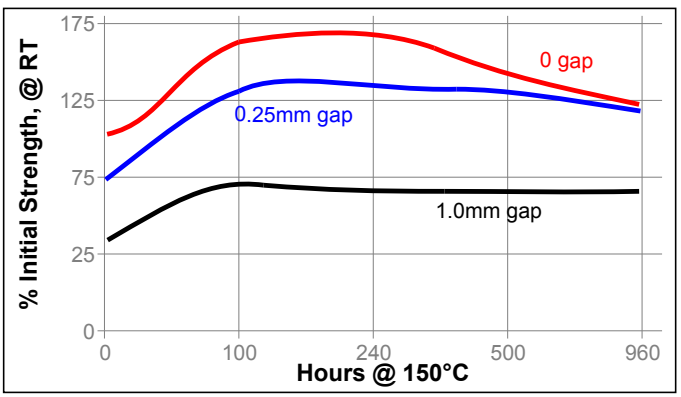
| | | |
|---|---|---|
| Shore Hardness, ASTM D 2240, Durometer A | | 40 |
| Elongation, ASTM D 412, % | | 330 |
| Tensile Strength, ASTM D 412 | N/mm² | 2.1 |
| | (psi) | (300) |

### Heat Aging

Aged at temperature indicated and tested @ 22 °C

Lap Shear Strength, ISO 4587:

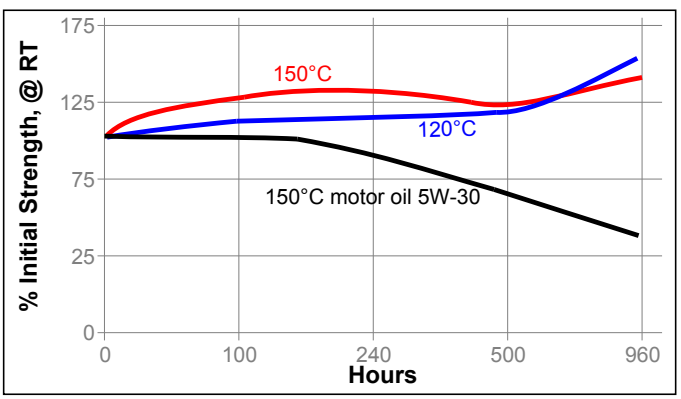
Aluminum




### Heat Aging

Aged at temperature indicated and tested @ 22 °C

Tensile Strength, ASTM D 412



## 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 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 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

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·mm x 0.142 = oz·in
mPa·s = cP

### Note

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Reference 1.1