



# LOCTITE<sup>®</sup> 5920<sup>™</sup>

September 2012

## PRODUCT DESCRIPTION

LOCTITE<sup>®</sup> 5920<sup>™</sup> provides the following product characteristics:

<b>Technology</b>	Silicone
<b>Chemical Type</b>	Silicone
<b>Appearance (uncured)</b>	Copper colored paste <sup>LMS</sup>
<b>Components</b>	One component - requires no mixing
<b>Thixotropic</b>	Reduced migration of liquid product after application to substrate
<b>Cure</b>	Room temperature vulcanizing (RTV)
<b>Application</b>	Gasketing and sealing
<b>Specific Benefit</b>	Adheres to a wide range of substrates.

LOCTITE<sup>®</sup> 5920<sup>™</sup> is a moisture-curing, non-corrosive silicone. The thixotropic nature of LOCTITE<sup>®</sup> 5920<sup>™</sup> reduces the migration of liquid product after application to the substrate. It has been designed specially for gasketing and sealing applications where excellent temperature resistance is required. It is also used for electrical insulating applications. This product is typically used in applications up to 350 °C.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 22 °C 1.05

Flash Point - See MSDS

Extrusion Rate, g/min:

Pressure 0.62 MPa, time 15 seconds, temperature 22 °C:  
Semco Cartridge  $\geq 275$ <sup>LMS</sup>

Flow, ISO 7390, mm:

After 2 minutes  $\leq 13$ <sup>LMS</sup>

## TYPICAL CURING PERFORMANCE

### Surface Cure

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

Tack Free Time, minutes:

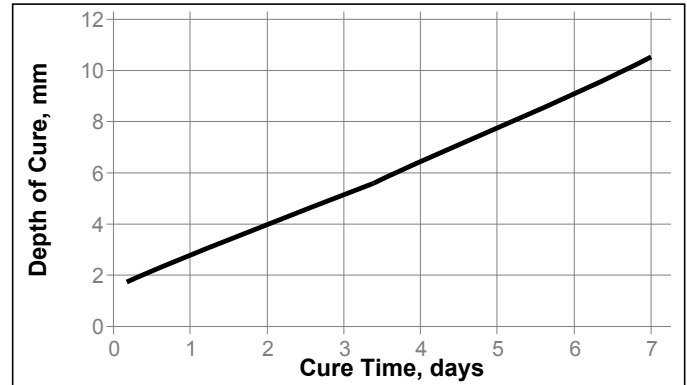
Cured @ 22 °C / 50±5 % RH 20 to 60<sup>LMS</sup>

Skin Over Time, minutes

20

## Depth of Cure

The graph below shows the increase in depth of cure with time at @ 22 °C



## TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 25 °C / 50±5 % RH

### Physical Properties:

Shore Hardness, ISO 868, Durometer A 23 to 38<sup>LMS</sup>  
 Elongation, ISO 37, %  $\geq 350$   
 Tensile Strength, ISO 37 N/mm<sup>2</sup>  $\geq 1.4$ <sup>LMS</sup>  
 (psi) (205)

Cured for 21 days @ 22 °C / 50±5 % RH

### Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-1, K<sup>-1</sup>  $340 \times 10^{-6}$

### Electrical Properties:

Volume Resistivity, IEC 60093, Ω·cm  $5.5 \times 10^{15}$   
 Surface Resistivity, IEC 60093, Ω  $200 \times 10^{15}$



**TYPICAL PERFORMANCE OF CURED MATERIAL**

**Adhesive Properties**

After 21 days @ 22 °C / 50% RH, and 0.5 mm gap  
Lap Shear Strength, ISO 4587:

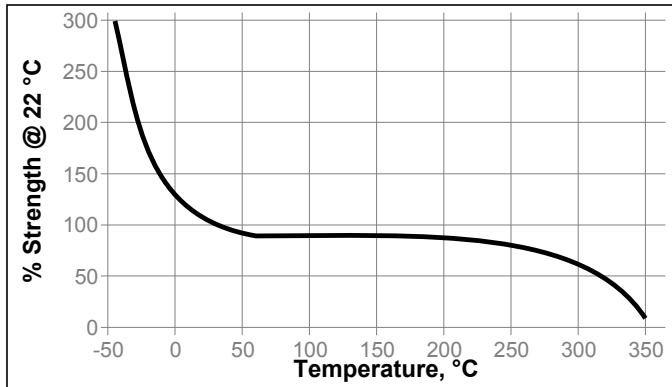
Copper	N/mm <sup>2</sup> 0.3 (psi) (40)
Brass	N/mm <sup>2</sup> 0.1 (psi) (15)
Mild steel	N/mm <sup>2</sup> 0.25 (psi) (35)
Mild steel (grit blasted)	N/mm <sup>2</sup> 0.65 (psi) (95)
Aluminum	N/mm <sup>2</sup> 0.25 (psi) (35)
Aluminum (grit blasted)	N/mm <sup>2</sup> 0.6 (psi) (90)
Stainless steel	N/mm <sup>2</sup> 0.25 (psi) (35)
ABS	N/mm <sup>2</sup> 0.1 (psi) (15)
Silicone	N/mm <sup>2</sup> 0.1 (psi) (15)
Phenolic	N/mm <sup>2</sup> 1.0 (psi) (145)
Zinc plated steel	N/mm <sup>2</sup> 0.4 (psi) (55)
Steel (e-coated)	N/mm <sup>2</sup> 1.3 (psi) (185)

**TYPICAL ENVIRONMENTAL RESISTANCE**

Cured for 21 days @ 22 °C / 50% RH

**Hot Strength**

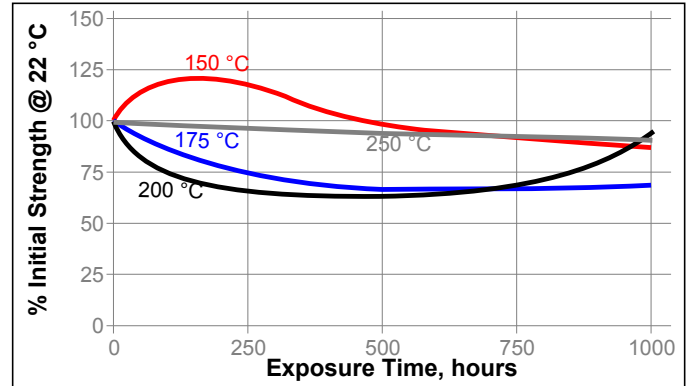
Lap Shear Strength, ISO 4587, Aluminum (Gritblasted)



**Heat Aging**

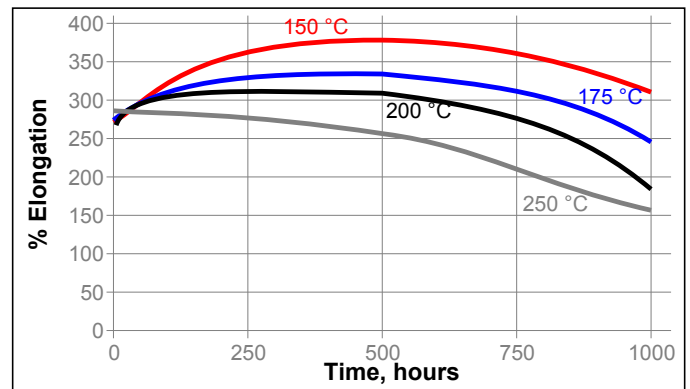
Aged at temperature indicated and tested @ 22 °C

Lap Shear Strength, ISO 4587:  
Aluminum (Gritblasted)



**Physical Properties**

Elongation, %



**Chemical/Solvent Resistance**

Shear Strength on Aluminum (Gritblasted) Lapshears

Environment	°C	% of initial strength		
		100 h	500 h	1000 h
ATF	120	45	75	80
Mineral Oil	150	50	45	45
Motor oil (5W40 -Synthetic)	120	100	90	80
Motor oil (5W40 -Synthetic)	150	80	40	30
Water	60	85	85	85
Water	90	40	15	15
Water/glycol 50/50	100	35	10	10
Water/glycol 50/50	120	15	10	10

**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).**

NOTE: *This product is not recommended for contact with gasoline.*

**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.

**Loctite Material Specification<sup>LMS</sup>**

LMS dated May 13, 2004. 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 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, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel 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 Henkel 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.

**Trademark usage**

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 1.2