

## LOCTITE® SI 5920™

December 2013

### PRODUCT DESCRIPTION

LOCTITE® SI 5920™ provides the following product characteristics:

<b>Technology</b>	Silicone
<b>Chemical Type</b>	Silicone
<b>Appearance (uncured)</b>	Copper colored paste
<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 benefits</b>	Adheres to a wide range of substrates

LOCTITE® SI 5920™ is a moisture-curing, non-corrosive silicone. The thixotropic nature of LOCTITE® SI 5920™ 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 SDS	
Extrusion Rate, g/min:	
Pressure 0.62 MPa, time 15 seconds, temperature 22°C:	≥275
Semco cartridge	
Flow, ISO 7390, mm:	
After 2 minutes	≤13

### Typical curing performance

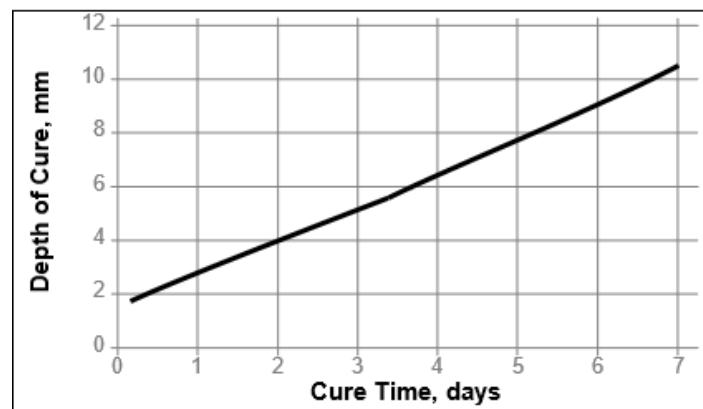
#### Surface cure

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
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
Elongation, ISO 37, %	≥350
Tensile Strength, ISO 37	N/mm <sup>2</sup> ≥1.4 (psi) (205)

Cured for 21 days @ 22 °C, 50±5% RH

#### Physical properties:

Coefficient of Thermal Expansion, ISO 11359-2, K <sup>-1</sup> :	340×10 <sup>-6</sup>
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#### Electrical properties:

Volume resistivity, IEC 60093, Ω·cm	5.5×10 <sup>15</sup>
Surface resistivity, IEC 60093, Ω·cm	200×10 <sup>15</sup>

**Typical performance of cured material**

**Adhesive properties:**

After 21 days @22°C / 50% RH, and 0.55mm gap

Lap shear strength:

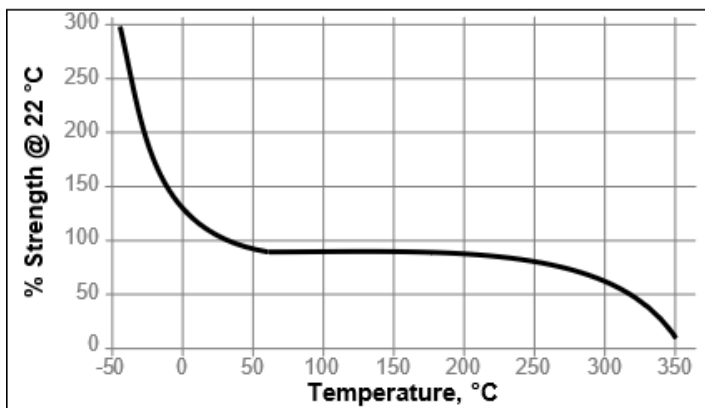
Copper	N/mm <sup>2</sup> (psi)	0.3 (40)
Brass	N/mm <sup>2</sup> (psi)	0.1 (15)
Mild steel	N/mm <sup>2</sup> (psi)	0.25 (35)
Mild steel (grit blasted)	N/mm <sup>2</sup> (psi)	0.65 (95)
Aluminum	N/mm <sup>2</sup> (psi)	0.25 (35)
Aluminum (grit blasted)	N/mm <sup>2</sup> (psi)	0.6 (90)
Stainless steel	N/mm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

**Typical environmental resistance**

Cured for 21 days @ 22 °C, 50% RH

**Hot strength**

Lap shear strength, ISO 4587, aluminum

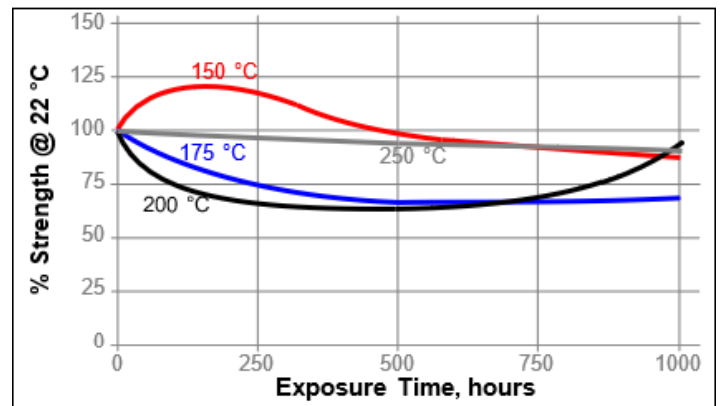


**Heat Aging**

Aged at temperature indicated and tested @ 22 °C.

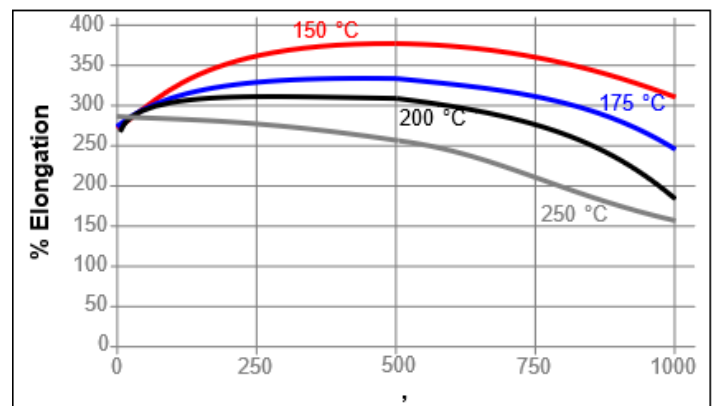
Lap shear strength:

Aluminum (grit blasted)



**Physical properties**

Elongation, %



**Chemical/solvent resistance**

Shear strength on aluminum (grit blasted) lap shears

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.

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



## Direction 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.

## 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 Henkel representative.

## Product Specification

The technical data contained herein are intended as reference only and are not considered specifications for the product.

Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

## Approval and Certificate

Please contact a Henkel representative for related approval or certificate of this product.

## Data Ranges

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

## Conversions

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

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