

## LOCTITE® SI 5300™

March 2020

### PRODUCT DESCRIPTION

LOCTITE® SI 5300™ provides the following product characteristics:

|                             |                                                                    |
|-----------------------------|--------------------------------------------------------------------|
| <b>Technology</b>           | Silicone                                                           |
| <b>Chemical Type</b>        | Acetoxy silicone                                                   |
| <b>Appearance (uncured)</b> | Red 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>          | Bonding or Sealing                                                 |

LOCTITE® SI 5300™ 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 @ 25 °C                              | 1.05 |
| Extrusion Rate, g/min:                                |      |
| Pressure 0.62 MPa, time 15seconds, temperature 25 °C: |      |
| Semco Cartridge                                       | 250  |

Flash Point - See SDS

### TYPICAL CURING PERFORMANCE

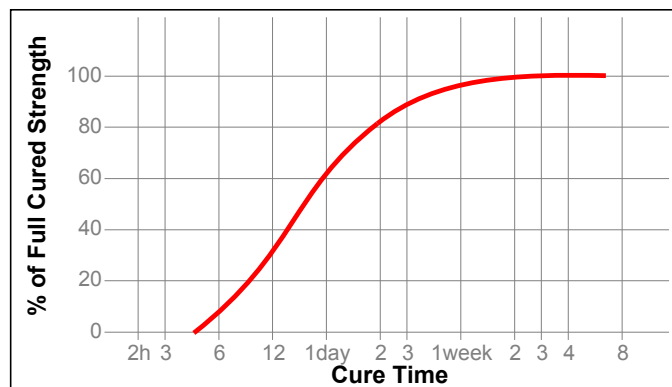
#### Surface Cure

Cured @ 22°C, 50% RH

|                     |   |
|---------------------|---|
| Skin Over Time, min | 8 |
|---------------------|---|

### Cure Speed

The graph below shows the shear strength developed over time at 22 °C / 50 % RH on Aluminum and tested according to ISO 4587.



### TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 21 days @ 22 °C / 50% RH

#### Physical Properties:

|                                                                |                      |
|----------------------------------------------------------------|----------------------|
| Shore Hardness, ISO 868, Durometer A                           | 31                   |
| Linear Shrinkage, %                                            | 0.32                 |
| Volume Shrinkage, %                                            | 0.97                 |
| Coefficient of Thermal Expansion, ISO 11359-2, K <sup>-1</sup> | 330×10 <sup>-6</sup> |
| Coefficient of Thermal Conductivity ISO 8302, W/(m·K)          | 0.63                 |
| Tensile Strength, ISO 37, N/mm <sup>2</sup>                    | 1.6                  |
| Tensile Modulus, ISO 37, N/mm <sup>2</sup>                     | 1.0                  |
| Elongation, at break, ISO 37, %                                | ≥260                 |

#### Electrical Properties:

|                                      |     |
|--------------------------------------|-----|
| Surface Resistivity, IEC 60093, PΩ   | 51  |
| Volume Resistivity, IEC 60093, TΩ·cm | 1.1 |

### TYPICAL PERFORMANCE OF CURED MATERIAL

#### Adhesive Properties

After 21 days @ 22 °C / 50% RH

|                                  |      |
|----------------------------------|------|
| Tensile Lap Shear Strength, MPa: |      |
| Aluminum (Grit blasted)          | 0.96 |
| Aluminum (Alclad)                | 0.97 |
| Mild steel                       | 0.31 |
| Mild steel (grit blasted)        | 0.76 |
| Stainless steel                  | 0.48 |
| Nylon                            | 0.8  |

|                   |      |
|-------------------|------|
| Silicone rubber   | 0.54 |
| Phenolic          | 1.17 |
| PET               | 0.63 |
| Zinc plated steel | 0.24 |
| Steel (e-coated)  | 0.77 |

## TYPICAL ENVIRONMENTAL RESISTANCE

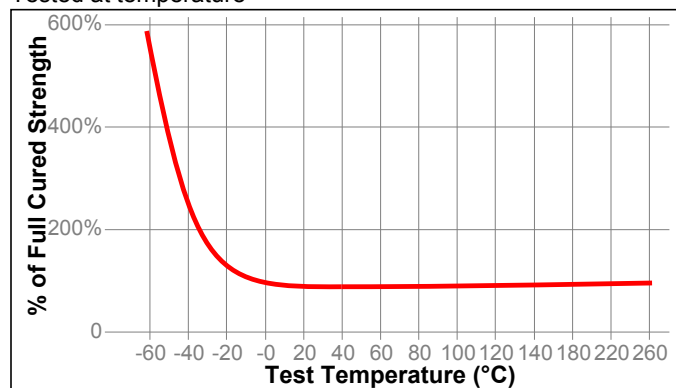
Cured for 21 days @ 22 °C / 50% RH

Tensile Lap Shear Strength, :

Aluminum (grit blasted)

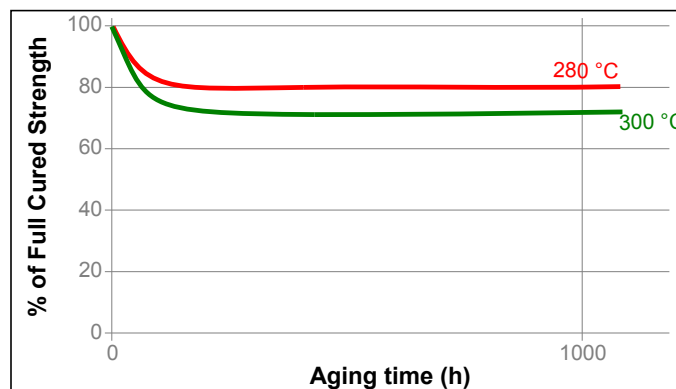
### Hot Strength

Tested at temperature



### Heat Aging

Aged at temperature indicated and tested @ 22 °C



### Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

| Environment        | °C  | % of initial strength |       |        |
|--------------------|-----|-----------------------|-------|--------|
|                    |     | 100 h                 | 500 h | 1000 h |
| Water/glycol 50/50 | 100 | 105                   | 105   | 105    |
| Water/glycol 50/50 | 120 | 90                    | 85    | 85     |
| ATF                | 120 | 65                    | 55    | 55     |
| Mineral Oil        | 150 | 70                    | 45    | 45     |
| Synthetic oil      | 120 | 90                    | 70    | 60     |
| Synthetic oil      | 150 | 80                    | 35    | 20     |
| Water              | 60  | 110                   | 120   | 105    |
| Water              | 90  | 100                   | 90    | 85     |

## 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).**

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 before subjecting to heavy service loads.
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<sup>LMS</sup>

LMS dated April 02, 2011. 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



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**Reference 0.2**