

LOCTITE® SI 5618™

November 2015

PRODUCT DESCRIPTION

LOCTITE® SI 5618™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Alkoxy silicone
Appearance, Resin (Component A)	White, lump free homogeneous paste
Appearance, Hardener (Component B)	Black, lump free homogeneous paste
Appearance (Mixture)	Black paste
Components	Two component - requires mixing
Mix Ratio, by volume - Part A: Part B	10 : 1
Viscosity	Thixotropic
Cure	Room temperature cure and Atmospheric moisture
Application	Bonding and Sealing

LOCTITE® SI 5618™ is a two part, polycondensation silicone with a 10:1 mix ratio. LOCTITE® SI 5618™ is a room temperature curing, neutral silicone designed for automatic application where fast handling properties are needed.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A:

Specific Gravity @ 25 °C	1.43
Viscosity, Plate to Plate, 25 °C, Pa·s: Shear rate 20 s ⁻¹	25
Flash Point - See SDS	

Part B:

Specific Gravity @ 25 °C	1.06
Viscosity, Plate to Plate, 25 °C, Pa·s: Shear rate 20 s ⁻¹	55
Flash Point - See SDS	

Mixed:

Open Time, minutes	4
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TYPICAL CURING PERFORMANCE

The mix of part A and part B initiates the reaction. There is a secondary cure with atmospheric moisture that promotes full cure over 7 days.

Skin Over Time

Skin over time is the time the surface of the adhesive forms a skin upon exposure to atmospheric moisture at 25 ± 2 °C, 50 ± 5% RH.

Skin Over Time, minutes	10
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Fixture Time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Fixture Time, ISO 4587, minutes	14
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TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 22 °C / 50% RH

Physical Properties:

Coefficient of Thermal Expansion, K ⁻¹	250×10 ⁻⁶
Elongation, at break, ISO 527-3, %	220
Tensile Strength, ISO 527-3	N/mm ² 1.0 (psi) (145)
Tensile Modulus, ISO 37	N/mm ² 1.5 (psi) (220)

Electrical Properties:

Surface Resistivity, IEC 60093, Ω	>20×10 ¹⁵
Volume Resistivity, IEC 60093, Ω·cm	3.0×10 ¹⁵

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 7 days @ 22 °C / 50% RH, 0 gap

Lap Shear Strength, ISO 4587:

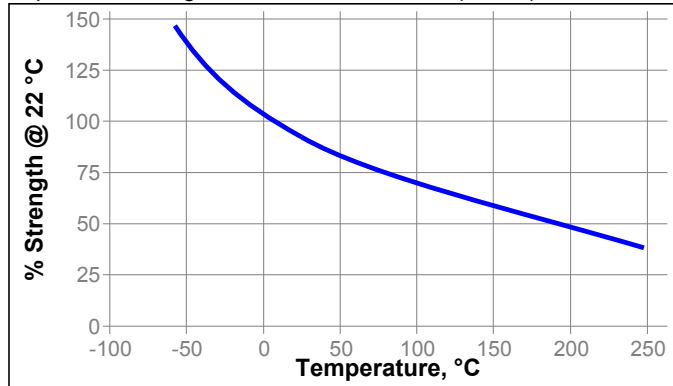
Aluminum (Alclad)	N/mm ² 1.2 (psi) (175)
Aluminum	N/mm ² 0.8 (psi) (115)
Mild steel (grit blasted)	N/mm ² 1.5 (psi) (220)
Stainless steel	N/mm ² 1.1 (psi) (160)
ABS	N/mm ² 0.9 (psi) (130)
Nylon	N/mm ² 1.4 (psi) (205)
Polycarbonate	N/mm ² 1.2 (psi) (175)
PVC	N/mm ² 1.7 (psi) (250)
Silicone	N/mm ² 0.3 (psi) (44)

TYPICAL ENVIRONMENTAL RESISTANCE

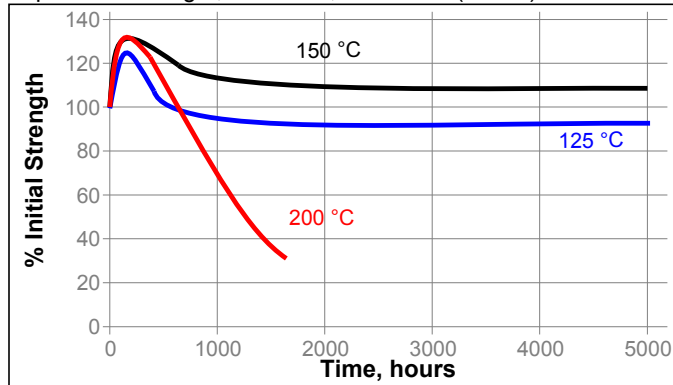
Cured for 7 days @ 22 °C

Hot Strength

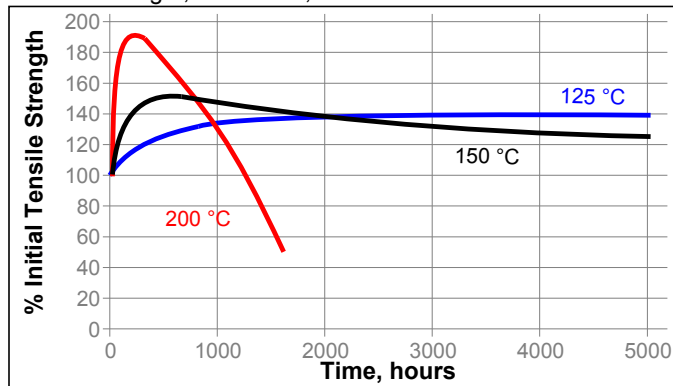
Lap Shear Strength, ISO 4587, Aluminum (Alclad)

**Heat Aging**

Lap Shear Strength, ISO 4587, Aluminum (Alclad)



Tensile Strength, ISO 527-3,

**Chemical/Solvent Resistance**

Lap Shear Strength, ISO 4587, Aluminum (Alclad)

Environment	°C	% of initial strength			
		500 h	1000 h	3000 h	5000 h
2% Ammonia/Water	22	85	80	80	80
Isopropanol	22	60	80	90	90
Motor oil (5W40 -Synthetic)	150	25	25	25	25
Water	22	85	85	85	85
Water	60	65	65	65	65
Water	90	50	50	50	50
Water/glycol	100	35	35	35	35
Water/glycol	120	30	30	30	30

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 the mating surface should be clean and free of grease.
2. **Bulk Containers:** Utilize volumetric dispense system to ensure proper mix ratio and utilize mix nozzle to obtain adequate mixing.
3. After dispense, mate parts immediately to ensure maximum bond strength.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

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 0.1