

LOCTITE® SI 5060™

Known as LOCTITE® 5060™
December 2014

PRODUCT DESCRIPTION

LOCTITE® SI 5060™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Oxime silicone
Appearance (uncured)	Smooth, black paste ^{LMS}
Components	One component - requires no mixing
Thixotropic	Reduced migration of liquid product after application to substrate
Cure	Room temperature vulcanizing (RTV)
Application	Sealing
Specific Benefit	Excellent resistance to various automotive fluids & excellent oil-cut through performance.

LOCTITE® SI 5060™ is a non-slumping, non-corrosive, low odor, low volatile silicone adhesive/sealant. It is designed primarily for flange sealing for manual transmission, gear axle and general powertrain applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C 1.35 to 1.41^{LMS}

Extrusion Rate, g/min:
Pressure 0.6 MPa, temperature 25 °C:
Semco #440 nozzle 180 to 400^{LMS}

Flash Point - See SDS

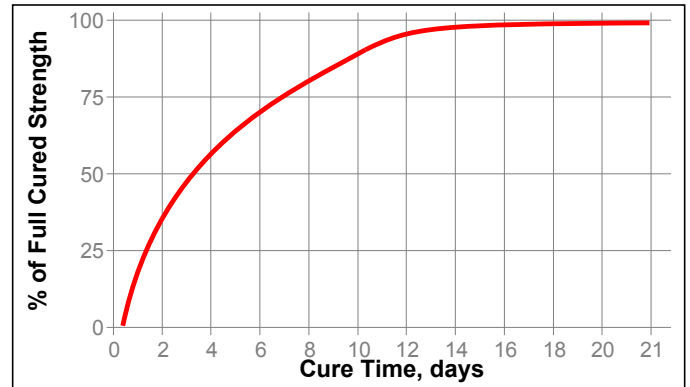
TYPICAL CURING PERFORMANCE

Surface Cure

Skin Over Time, minutes:
@ 25 °C / 50±5 % RH 10 to 30^{LMS}

Cure Speed

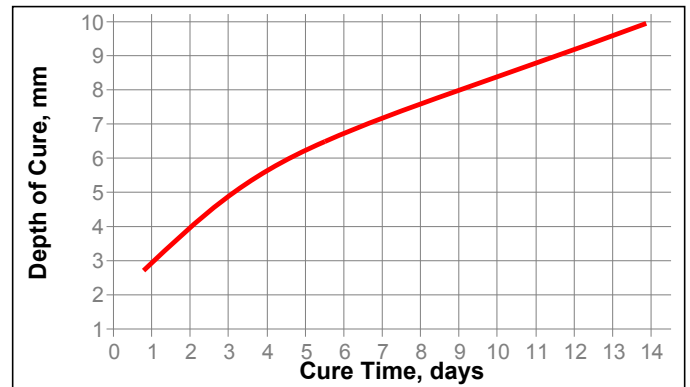
The graph below shows shear strength developed with time on grit blasted mild steel lapshears at a bond gap of 0.5 mm. Cure condition 23±2 °C, 50±5% RH. Strength is determined according to ISO 4587



Depth of Cure

The depth of cure depends on temperature and humidity. Depth of cure was measured on strip pulled from a ramped PTFE mold (maximum depth 10 mm).

The graph below shows the increase in depth of cure with time at 23±2 °C / 50±5 % RH.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 23 °C / 50±5 % RH

Physical Properties:

Shore Hardness, ISO 868, Durometer A	45 to 60 ^{LMS}
Elongation, ISO 37, %	200 to 500 ^{LMS}
Tensile Strength, ISO 37	N/mm ² ≥1.7 ^{LMS} (psi) (≥247)

TYPICAL PERFORMANCE OF CURED MATERIAL**Adhesive Properties**

Cured for 7 days @ 23 °C / 50±5 % RH

Lap Shear Strength, ISO 4587:

Alclad, 0.5 mm gap	N/mm ²	1.0 to 1.6
	(psi)	(150 to 230)
Aluminum 2024-T3 (grit blasted)	N/mm ²	2.2 to 2.4
1.0 mm gap	(psi)	(320 to 350)

TYPICAL ENVIRONMENTAL RESISTANCE

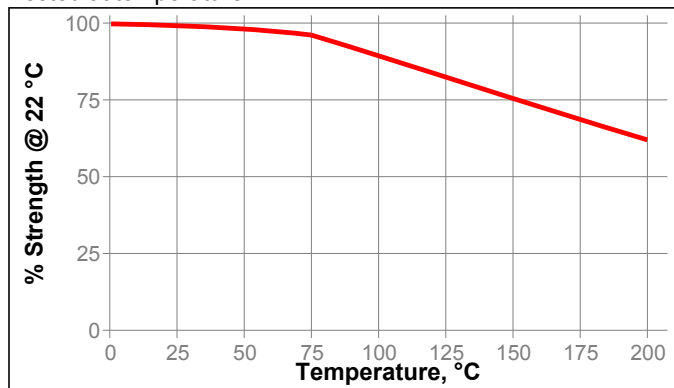
Cured for 21 days @ 23 °C / 50±5 % RH

Lap Shear Strength, ISO 4587:

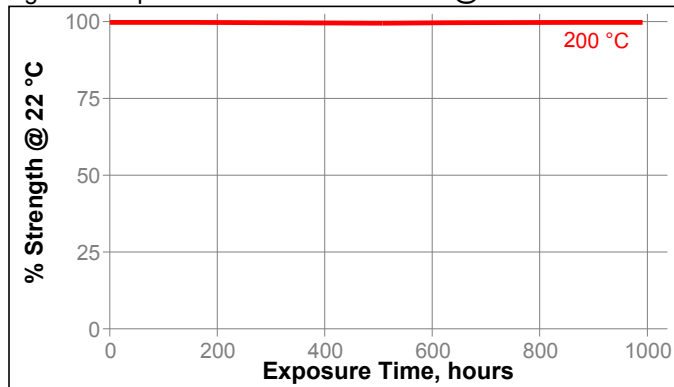
Alclad

Hot Strength

Tested at temperature

**Heat Aging**

Aged at temperature indicated and tested @ 22 °C

**Typical Fluid Immersion Properties**

Cured for 7 days @ 23 °C / 50±5 % RH, tested @ 23 °C

Physical Properties:

Shore Hardness, ISO 868, Durometer A

Environment	°C	% of initial strength	
		100 h	300 h
Motor oil (10W30)	150	60	60
Gear oil (80W90)	120	70	----
Manual transmission oil (75W85)	120	45	----

Physical Properties:

Elongation, ISO 527-3

Environment	°C	% of initial strength	
		100 h	300 h
Motor oil (10W30)	150	105	100
Gear oil (80W90)	120	125	----
Manual transmission oil (75W85)	120	135	----

Physical Properties:

Tensile Strength, ISO 527-3

Environment	°C	% of initial strength	
		100 h	300 h
Motor oil (10W30)	150	100	100
Gear oil (80W90)	120	80	----
Manual transmission oil (75W85)	120	65	----

Lap Shear Strength, ISO 4587:

Aluminum 2024-T3 (grit blasted):

1.0 mm gap

Environment	°C	% of initial strength	
		100 h	300 h
Motor oil (10W30)	150	80	75
Gear oil (80W90)	120	85	----
Manual transmission oil (75W85)	120	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).

Directions for use:

1. For best performance bond surfaces should be clean and free from grease.
2. This product is moisture cure. Exposure to environmental moisture should be kept to a minimum during storage and handling.
3. Full performance properties will develop over hours.
4. 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.
5. Excess material can be easily wiped away with non-polar solvents.

Loctite Material Specification^{LMS}

LMS dated June 2, 2006. 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 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 1.1