Technical Data Sheet

LOCTITE® SI 5910®

Known as LOCTITE® 5910
January 2019

PRODUCT DESCRIPTION

LOCTITE® SI 5910® provides the following product characteristics:

Technology	Silicone
Chemical Type	Oxime silicone
Appearance (uncured)	Black paste[LMS]
Components	One component - requires no mixing
Viscosity	Thixotropic paste
Cure	Room temperature vulcanizing (RTV)
Application	Sealing
Specific Benefits	Excellent resistance to automotive engine oils.

Typical applications include stamped sheet metal covers (timing covers and oil sumps) where good oil resistance and the ability to withstand high joint-movement is required. The thixotropic nature of LOCTITE® SI 5910® reduces the migration of liquid product after application to the substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 20 °C 1.34

Flash Point - See SDS

Extrusion Rate, g/min:
Pressure 0.62 MPa, time 15seconds, temperature 25 °C:
Semco Cartridge 300 to 650[LMS]

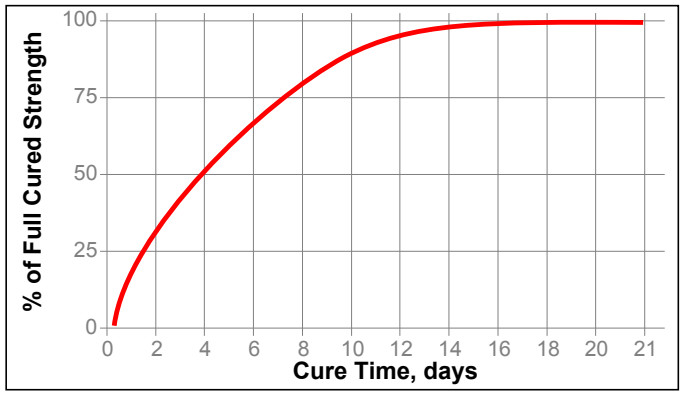
TYPICAL CURING PERFORMANCE

Surface Cure

Tack Free Time, minutes:
Cured @ 25 °C / 50±5 % RH ≤40[LMS]

Cure Speed

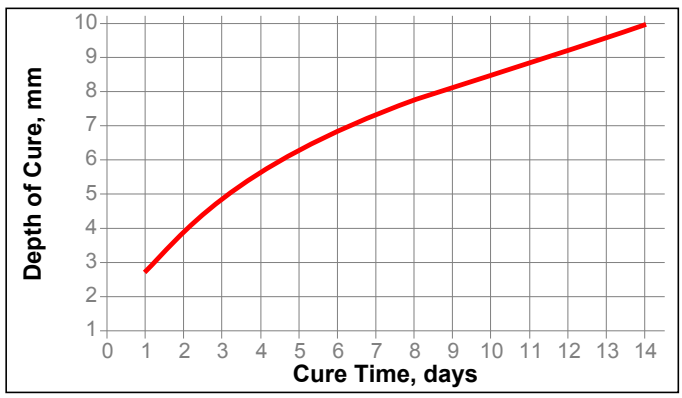
The graph below shows shear strength developed with time on Aluminum lapshears at a bond gap of 0.5 mm. Cure condition 23±2 °C, 60±5% RH. Strength is determined according to ISO 4587.



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 1 week @ 25°C / 50±5 % RH

Physical Properties:

Shore Hardness, ISO 868, Durometer A		30
Elongation, ISO 37, %		≥400[LMS]
Tensile Strength, ISO 37	N/mm²	≥1.7[LMS]
	(psi)	(≥247)
Tensile Strength, at 100% elongation, ISO 37[LMS]	N/mm²	0.6 to 1.0
	(psi)	(87 to 145)

Electrical Properties:

Volume Resistivity, IEC 60093, Ω·cm	1.69×10^{14}
Surface Resistivity, IEC 60093, Ω	2.81×10^{16}
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 kHz	4.53 / 0.019
100 kHz	4.09 / 0.009
1 MHz	4.05 / 0.008
10 MHz	4.08 / 0.017

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 21 days @ 23°C / 60±5% RH and 0.5 mm gap

Lap Shear Strength :

Mild steel	N/mm² (psi)	0.9 to 1.4 (130 to 200)
Aluminum 2024-T3	N/mm² (psi)	0.6 to 1.4 (90 to 200)
Alclad	N/mm² (psi)	1 to 1.6 (145 to 230)
Zinc dichromate	N/mm² (psi)	1 to 1.6 (145 to 230)

TYPICAL ENVIRONMENTAL RESISTANCE

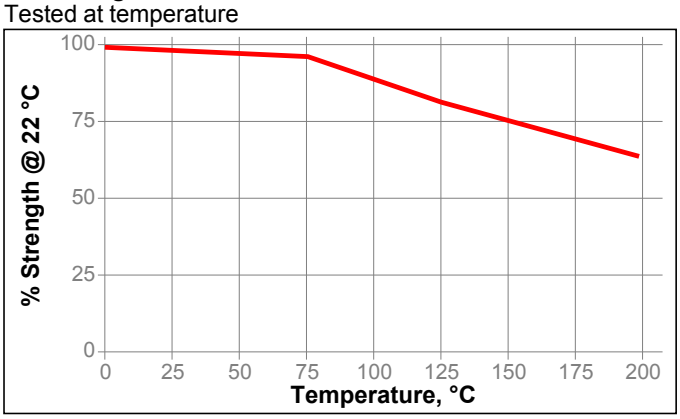
Cured for 21days @ 23°C / 60±5% RH

Lap Shear Strength :

Alclad

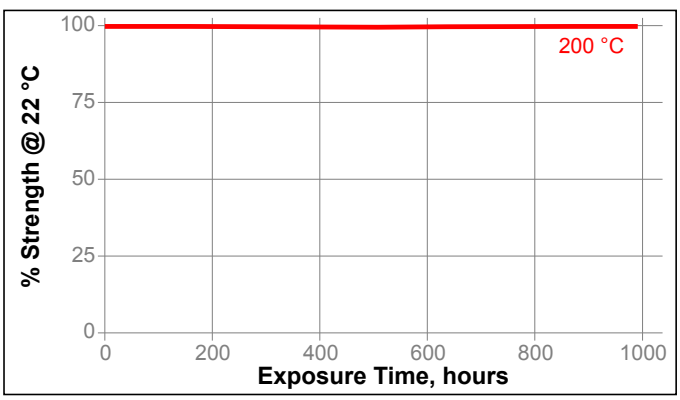
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C



Environmental Aging - Effect on bulk properties

Cured for 21days @ 23±2 °C / 60±5% RH, 2 mm thick film

Tensile strength, ISO 37, N/mm² (Elongation, at break, %):

Environment	100 h	500 h	1000 h
22 °C	1.7(700)	2.4(600)	1.9(560)
150 °C	2.2(400)	2.2(450)	2.3(470)
175 °C	2.2(380)	2.1(350)	1.4(330)
200 °C	2.2(370)	2.0(340)	1.4(300)
5W40 oil, 120 °C	1.9(520)	2.3(490)	2.1(590)
Motor oil, 150°C	1.9(520)	1.8(450)	2.6(600)
Water/glycol	1.0(620)	0.6(540)	0.9(570)

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. 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.
5. For full automatic applications a volumetric dispensing system is recommended.

Loctite Material Specification[LMS]

LMS dated January 08, 2009. 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 Henkel representative.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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Reference 1.13