Technical Data Sheet

LOCTITE® SI 5660™

November 2018

PRODUCT DESCRIPTION

LOCTITE® SI 5660™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Silicone
Appearance (uncured)	Grey paste, lump free[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 Benefits	Non-corrosive

LOCTITE® SI 5660™ is a moisture curing silicone. The thixotropic nature of LOCTITE® SI 5660™ reduces the migration of liquid product after application to the substrate. It has been designed specially for gasketing applications where good resistance against oils and coolants is required. Typical applications include transmissions and cast metal housings.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C 1.5

Extrusion Rate, g/min:
Pressure 0.62 MPa, time 15seconds, temperature 25 °C:
Semco Cartridge 200 to 700[LMS]

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

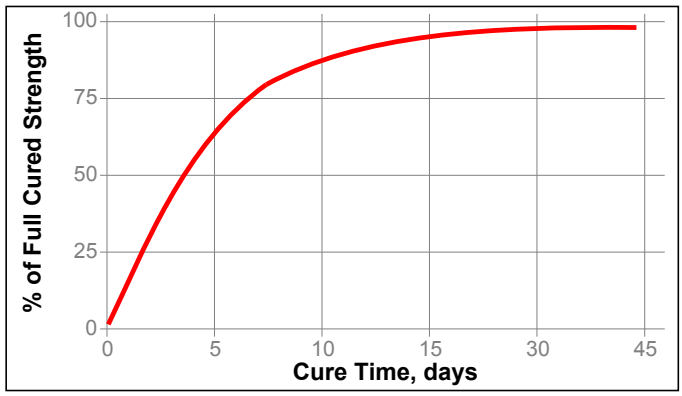
Surface Cure

Tack Free Time is the time required to achieve a tack free surface

Tack Free Time, minutes:
Cured @ 25 °C / 50±5 % RH ≤60[LMS]

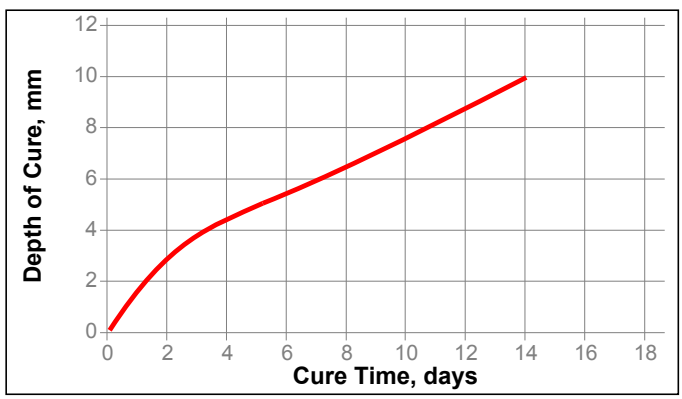
Cure Speed

The graph below shows the shear strength developed over time at 22 °C / 50 % RH on Grit Blasted Mild Steel (GBMS) and tested according to ISO 4587.



Depth of Cure

The graph below shows the increase in depth of cure with time at 23°C with increase in humidity.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 25°C / 50% RH

Physical Properties:

Shore Hardness, ISO 868, Durometer A		45 to 75[LMS]
Linear Shrinkage, in/in		1.13
Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}		245×10^{-6}
Coefficient of Thermal Conductivity ISO 8302, W/(m·K)		0.63
Tensile Strength, ISO 37	N/mm² (psi)	2.4 to 3.8[LMS] (348 to 550)
Elongation, at break, ISO 37, %		≥100[LMS]

Electrical Properties:

Surface Resistivity, IEC 60093, Ω	188×10^{15}
Volume Resistivity, IEC 60093, Ω·cm	100×10^{12}

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 7 days @ 22°C / 50% RH

Lap Shear Strength :

Copper	N/mm²	0.7
	(psi)	(100)
Brass	N/mm²	0.6
	(psi)	(90)
Mild steel	N/mm²	1.8
	(psi)	(260)
Aluminum	N/mm²	0.4
	(psi)	(60)
Aluminum (grit blasted)	N/mm²	1.7
	(psi)	(245)
Stainless Steel	N/mm²	0.9
	(psi)	(130)
ABS	N/mm²	0.3
	(psi)	(44)
Nylon	N/mm²	0.2
	(psi)	(30)
Silicone	N/mm²	0.2
	(psi)	(30)
Phenolic	N/mm²	1.0
	(psi)	(145)
Zinc plated steel	N/mm²	1.6
	(psi)	(230)
Steel (e-coated)	N/mm²	2.0
	(psi)	(290)
Aluminum (Alclad)	N/mm²	0.7
	(psi)	(101)

TYPICAL ENVIRONMENTAL RESISTANCE

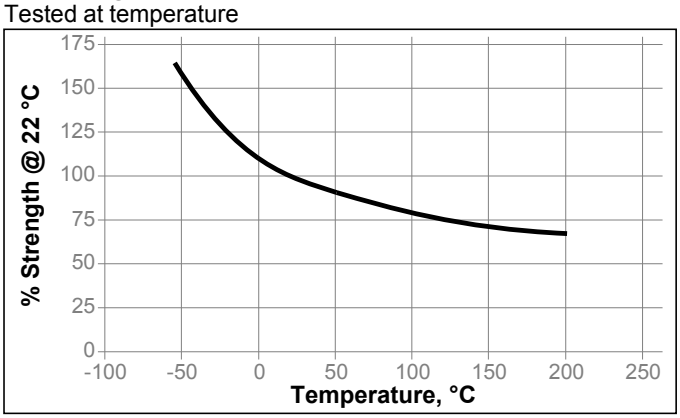
Cured for 7 days @ 25°C / 50% RH

Lap Shear Strength :

Aluminum (grit blasted)

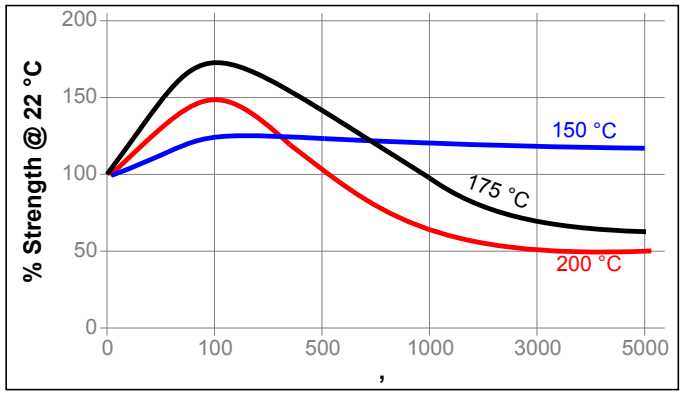
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 23 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ °C

		% of initial strength			
Environment	**°C**	**100 h**	**500 h**	**1000 h**	**5000 h**
Water/glycol 50/50	120	45	55	50	30
Water/glycol 50/50	100	55	55	60	55
ATF	120	75	55	30	35
ATF	150	55	35	15	----
Mineral Oil	150	85	75	55	35
Motor oil (5W30 -Synthetic)	120	105	90	90	75
Motor oil (5W30 -Synthetic)	150	95	85	65	35
Water	60	75	65	65	65
Water	90	70	65	45	55

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 (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 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 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 1.11