LOCTITE® 5699™

December 2009

PRODUCT DESCRIPTION

LOCTITE® 5699™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Oxime silicone
Appearance (uncured)	Grey 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	Non-corrosive

LOCTITE® 5699™ is designed primarily for flange sealing with excellent oil resistance on rigid flange sealing for example on transmissions and cast metal housings.

NSF International

Registered to NSF Category P1 for use as a sealant where there is no possibilty of food contact in and around food processing areas. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 20 °C	1.45
Flash Point - See MSDS	
Extrusion Rate, g/min:	
Pressure 0.62 MPa, time 15 seconds, temperature 25 °C:	
Semco Cartridge	≥200[LMS]

TYPICAL CURING PERFORMANCE

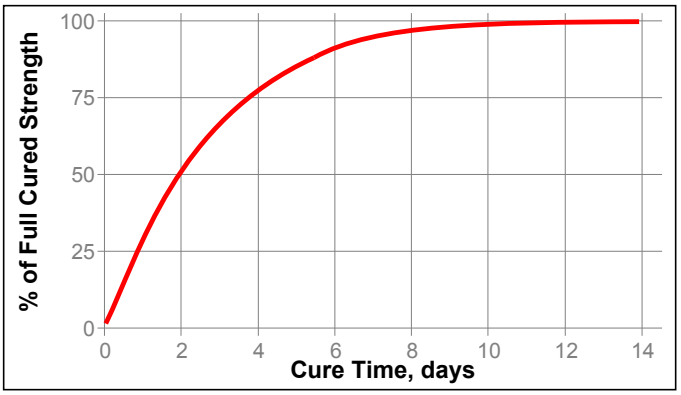
Surface Cure

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

Tack Free Time, minutes:	
Cured @ 25 °C / 50±5 % RH	≤30[LMS]

Cure Speed

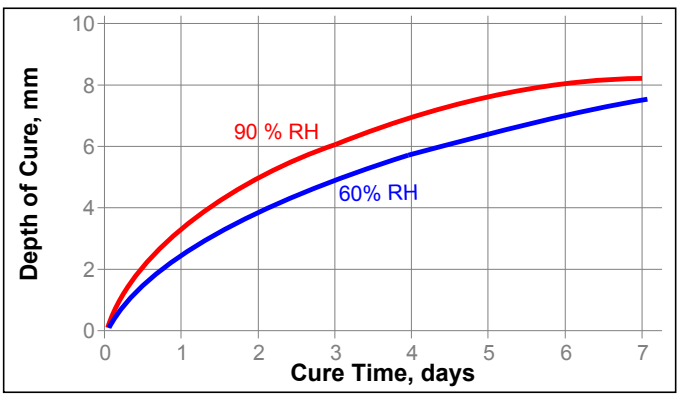
The graph below shows shear strength developed with time on grit blasted mild steel lapshears at a bond gap of 0.5 mm. Cure condition 23±2 °C, 60±5% RH. Strength is determined according to ISO 4587



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°C with increase in humidity.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 1 week @ 25 °C / 50±5 % RH

Physical Properties:

Shore Hardness, ISO 868, Durometer A		45 to 75[LMS]
Elongation, ISO 37, %		≥100[LMS]
Tensile Strength, ISO 37	N/mm²	≥2.4[LMS]
	(psi)	(≥348)

Electrical Properties:

Surface Resistivity, IEC 60093, Ω	2×10^{15}
Volume Resistivity, IEC 60093, Ω·cm	2×10^{15}
Dielectric Constant / Dissipation Factor, IEC 60250:	
100Hz	2.8
10 kHz	4.0
10 MHz	4.1

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 14days @ 23 °C / 60±5% RH and 0.5 mm gap

Lap Shear Strength, ISO 4587:

Aluminum	N/mm²	0.1 to 0.7
	(psi)	(15 to 102)
Zinc dichromate	N/mm²	0.7 to 1.5
	(psi)	(102 to 213)
Mild steel (grit blasted)	N/mm²	1.3 to 2.1
	(psi)	(189 to 305)
Aluminum (abraded)	N/mm²	1.3 to 2.0
	(psi)	(189 to 290)

TYPICAL ENVIRONMENTAL RESISTANCE

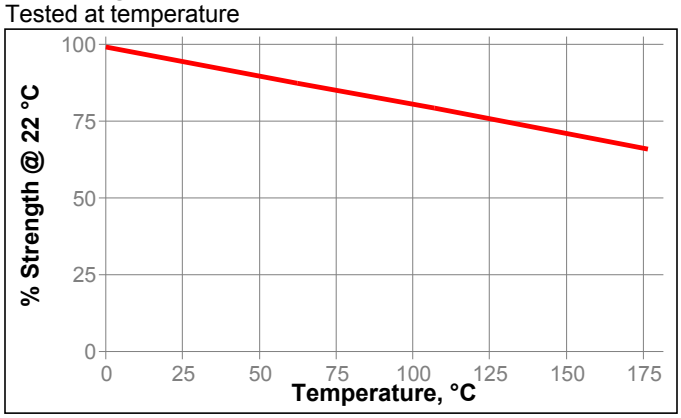
Cured for 14 days @ 23 °C / 60±5% RH

Lap Shear Strength, ISO 4587:

Mild steel (grit blasted)

Hot Strength

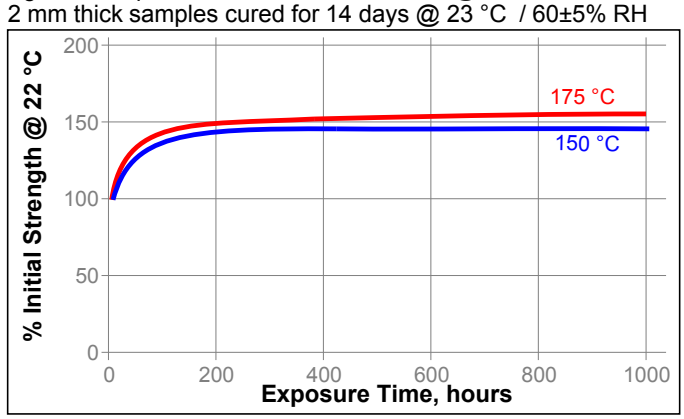
Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C

2 mm thick samples cured for 14 days @ 23 °C / 60±5% RH



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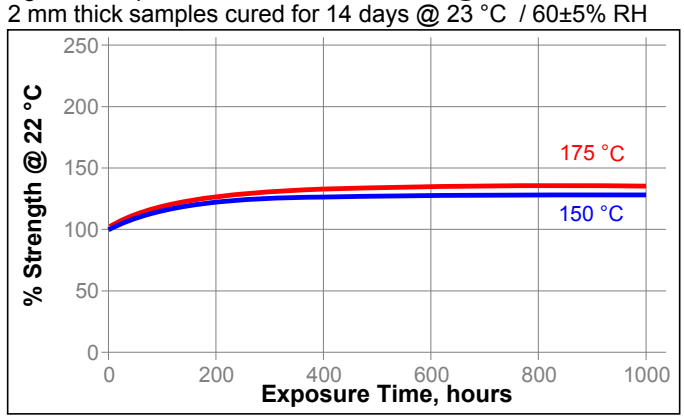

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength		
Environment	**°C**	**100 h**	**500 h**	**1000 h**
Multi-grade	120	95	95	90
Multi-grade	150	80	80	75
ATF (Dextron II oil)	120	70	85	75
ATF (Dextron II oil) - Japanese Grade	150	75	65	35
Water/glycol 50/50	100	85	90	65

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 Material Safety Data Sheet (MSDS).

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.

Loctite Material Specification[LMS]

LMS dated October 24, 2001. 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

(°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

Note

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Trademark usage

Reference 1.4