LOCTITE® 574 Flange Sealant

Product Description

LOCTITE® 574™ provides the following product characteristics:

Technology	Acrylic
Chemical type	Dimethacrylate ester
Appearance (uncured)	Orange paste[LMS]
Fluorescence	Positive under UV light[LMS]
Components	One component, requires no mixing
Viscosity	Thixotropic
Cure	Anaerobic
Secondary cure	Activator
Application	Sealing
Strength	Medium

LOCTITE® 574™ seals close fitting joints between rigid metal faces and flanges. The product cures when confined in the absence of air between close fitting metal surfaces. Provides resistance to low pressures immediately after assembly of flanges. Typically used as a form-in-place gasket on rigid flanged connections, e.g. gearbox and engine casings, etc. The thixotropic nature of LOCTITE® 574™ reduces the migration of liquid product after application to the substrate.

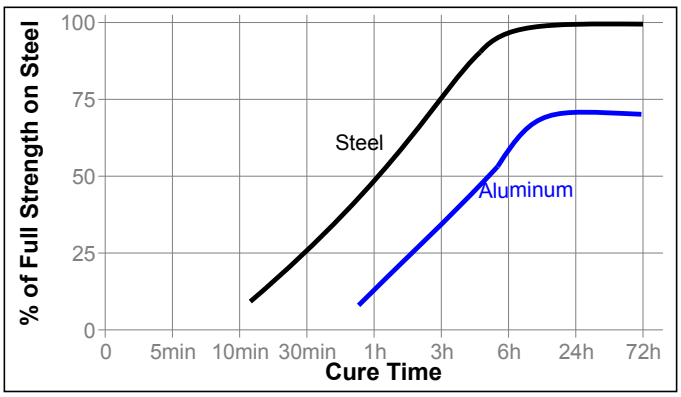
Typical Properties of Uncured Material

Specific Gravity @ 25°C	1.1
Flash point – see SDS	
Viscosity, Brookfield - RVT, 25°C, mPa·s (cP):	
Spindle 6, speed 2.5 rpm,	70,000 to 120,000[LMS]
Spindle 6, speed 20 rpm	23,000 to 35,000[LMS]

Typical Curing Performance

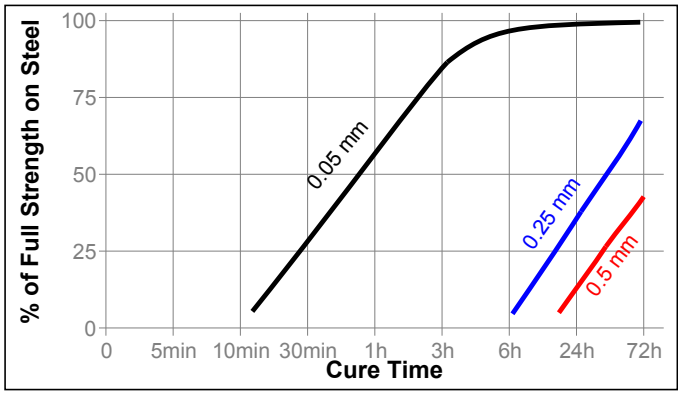
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on grit blasted steel lap shears compared to different materials and tested according to ISO 4587.



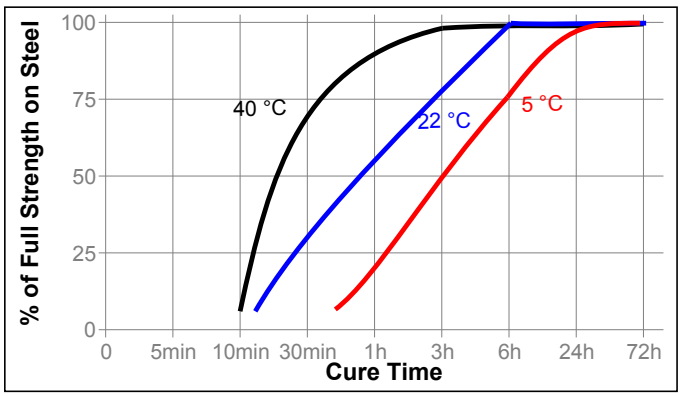
Cure Speed vs. Bond Gap

The rate of cure will depend on the bond line gap. The following graph shows shear strength developed with time on grit blasted steel lap shears at different controlled gaps and tested according to ISO 4587.



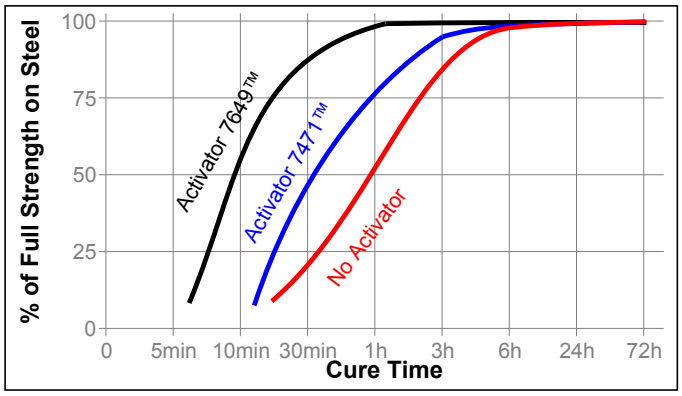
Cure Speed vs. Temperature

The rate of cure will depend on the ambient temperature. The graph below shows the shear strength developed with time on grit blasted steel lap shears at different temperatures and tested according to ISO 4587.



Cure Speed vs. Activator

Where cure speed is unacceptably long, or large gaps are present, applying activator to the surface will improve cure speed. The graph below shows the shear strength developed with time on grit blasted steel lap shears using and tested according to ISO 4587.



Typical Properties Of Cured Material

Physical Properties

Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}	80×10^{-6}
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K)	0.1
Specific Heat, kJ/(kg·K)	0.3

Typical Performance of Cured Material

Adhesive Properties

After 24 hours @ 22°C		
Compressive Shear Strength, ISO 10123:	**N/mm²**	**psi**
Steel pins and collars	≥6.0[LMS]	≥870
Lap Shear Strength, ISO 4587:	**N/mm²**	**psi**
Steel (grit blasted)	8.5	1,230
Tensile Strength, ISO 6922:	**N/mm²**	**psi**
Steel (grit blasted)	5	725

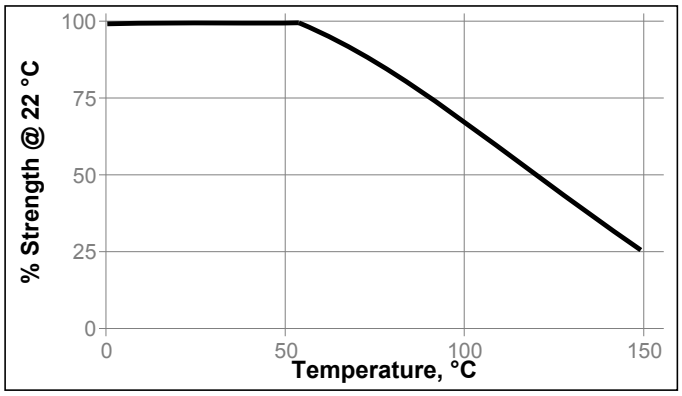
Typical Environmental Resistance

The following tests refer to the effect of environment on strength. This is not a measure of sealing performance.

Cured for 1 week @ 22°C
Lap Shear Strength, ISO 4587:
Steel (grit blasted)

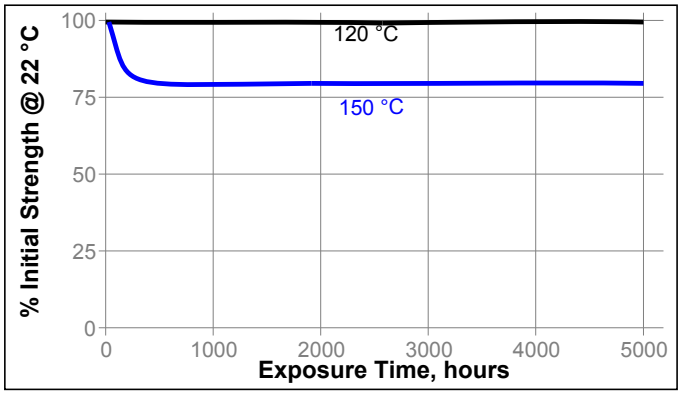
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22°C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22°C

		% of initial strength		
Environment	**°C**	**100 h**	**500 h**	**1000 h**
Motor oil	125	100	100	100
Gasoline	22	75	75	75
Water/glycol 50/50	87	85	85	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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Directions for Use:

1 For best performance bond surfaces should be clean and free from grease.

2 The product is designed for close fitting flanged parts with gaps up to 0.25mm.

3 Apply manually as a continuous bead or by screen printing to one surface of the flanges.

4 Low pressures (<0.5 MPa) may be used when testing to confirm a complete seal immediately after assembly and before curing.

5 Flanges should be tightened as soon as possible after assembly to avoid shimming.

Loctite Material Specification[LMS]

LMS dated September 01, 1995. 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 labelling.

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/mm^2 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