August 2016

LOCTITE® 515™ provides the following product characteristics:

	Acrylic
Chemical Type	Methacrylate ester
Appearance (uncured)	Opaque, dark purple[LMS]
Fluorescence	Positive under UV light[LMS]
Components	One component - requires no mixing
Viscosity	High
	Anaerobic
	Sealing

LOCTITE® 515™ cures when confined in the absence of air between close fitting metal surfaces. It seals close fitting joints between rigid metal faces and flanges and will flex with minor flange movements. Provides resistance to low pressures immediately after assembly of flanges. Typically used as a form-in-place gasket for pumps, thermostats, compressors, transmission housings and axle covers.

-

Fire hazard is small. No flash point in liquid state. Ignition temperature 467°C. For use in devices handling gasoline, petroleum oils, natural gas (pressure not over 300 PSIG), butane and propane not exceeding 2 in. pipe size. This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

number 2590 Class II rated working pressure 500 kPa, working temperature -10 to 150°C. This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

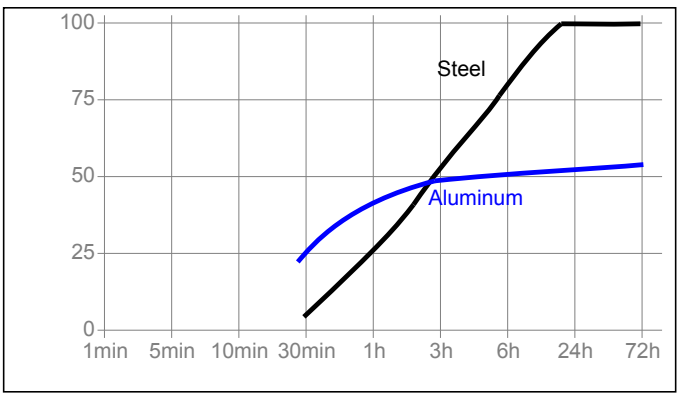
Specific Gravity @ 25 °C	1.1

Viscosity, Brookfield - HBT, 25 °C, mPa·s (cP):

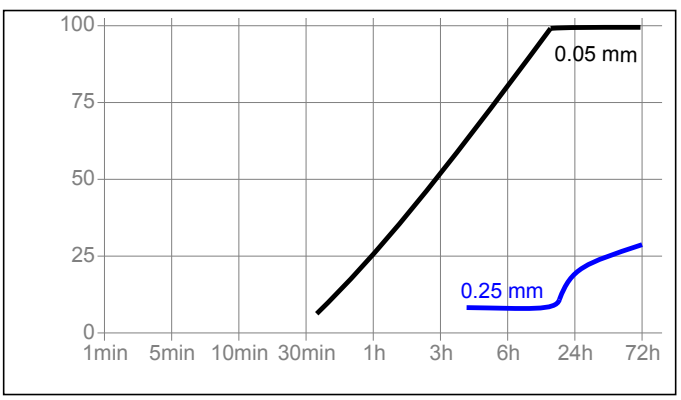
Spindle TB, speed 0.5 rpm, Helipath	700,000 to 1,700,000[LMS]
Spindle TB, speed 5.0 rpm, Helipath	150,000 to 375,000[LMS]

Flash Point - See SDS

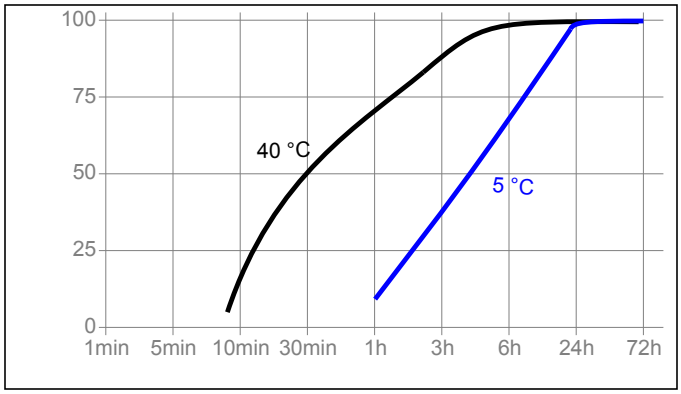
The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on grit blasted steel lap shears compared to different materials and tested according to ISO 4587.



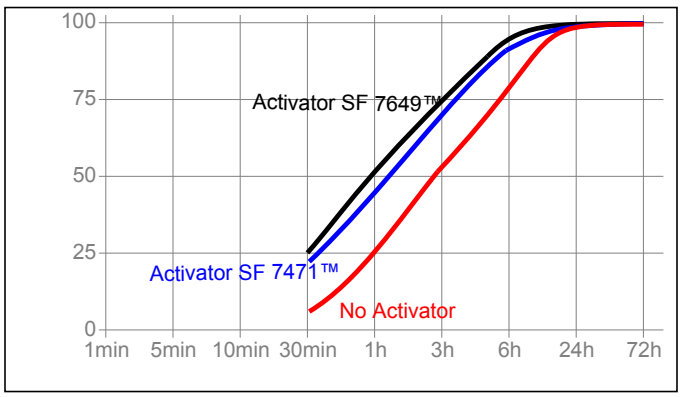
The rate of cure will depend on the bondline gap. The following graph shows shear strength developed with time on grit blasted steel lap shears at different controlled gaps and tested according to ISO 4587.



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.



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 Activator SF 7471™ and SF 7649™ and tested according to ISO 4587.



:

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

Cured for 1 hour @ 22 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm²	≥5.0[LMS]
	(psi)	(≥725)

Cured for 24 hours @ 22 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm²	≥5.0[LMS]
	(psi)	(≥725)

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm²	6.0
	(psi)	(870)

Tensile Strength, ISO 6922:

Steel (grit blasted)	N/mm²	14
	(psi)	(2,030)

Cured for 24 hours @ 90 °C, tested @ 22 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm²	≥6.9[LMS]
	(psi)	(≥1,000)

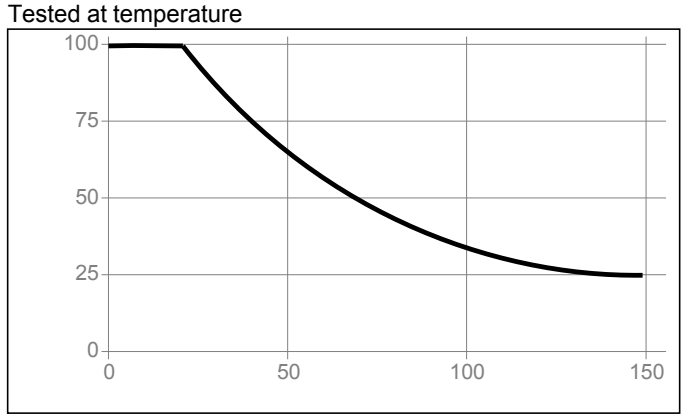
The following tests refer to the effect of environment on strength. This is not a measure of sealing performance.

Cured for 1 week @ 22 °C.

Lap Shear Strength, ISO 4587:

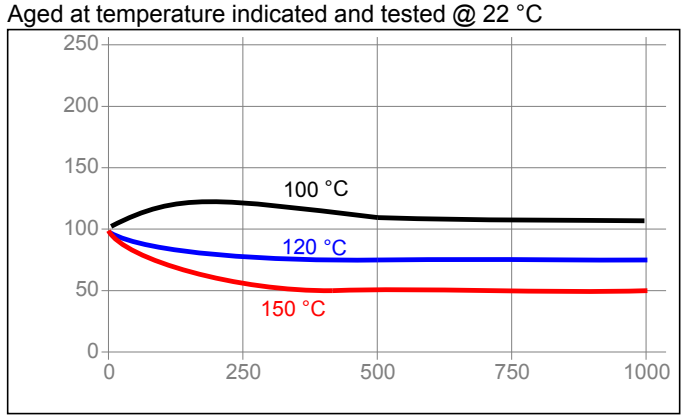
Steel (grit blasted)

Tested at temperature



This product has been tested to -75°C (-100 F). This product may work below this temperature, but has not been tested.

Aged at temperature indicated and tested @ 22 °C



Aged under conditions indicated and tested @ 22 °C

Motor oil	125	160	165
Gasoline	22	20	15
Water/glycol 50/50	87	80	80
DEF (AdBlue®)	22	60	60

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.

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 0.25 mm (0.01 in).
3. Apply manually as a continuous bead or by screen printing to one surface of the flanges.
4. Low pressures (<0.05 MPa, <7.3 psi) 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.

LMS dated January 14, 2000. 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.

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

.

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.

(°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

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. 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.
Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing,

The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Reference 1.3