chanhvinh.com

Technical Data Sheet

LOCTITE® 577™

LOCTITE® 577™ May 2026

PRODUCT DESCRIPTION

LOCTITE® 577™ provides the following product characteristics:

Technology	Acrylic
Chemical type	Dimethacrylate ester
Appearance (uncured)	Yellow paste
Fluorescence	Positive under UV light
Components	One component - requires no mixing
Viscosity	High, thixotropic
Cure	Anaerobic
Secondary cure	Activator
Application	Threadsealing
Strength	Medium

LOCTITE® 577™ is designed for the locking and sealing of metal threaded pipes and fittings. Particularly suitable for use on stainless steel without the need for surface activation. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration. The thixotropic nature of LOCTITE® 577™ reduces the migration of liquid product after application to the substrate. LOCTITE® 577™ provides robust curing performance. It not only works on active metals (e.g. brass, copper) but also on passive substrates such as stainless steel and plated surfaces. The product offers gap performance to 0.25 mm (0.01 in), high temperature performance and contamination tolerance. It cures in the presence of minor surface contaminations from various oils, such as cutting, lubrication, anti-corrosion and protection fluids and cleaners containing surfactants and corrosion inhibitors.

NSF International

Registered to NSF Category P1 for use as a sealant where there is no possibility 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.

Approved by the Australian Gas Association Certificate number 4787 Class III rated working pressure 2000 kPa, working temperature -10 to 135°C. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

EN 751-1

Sealing materials for metallic threaded joints in contact with 1st, 2nd, and 3rd family gases and hot water; Part 1: Anaerobic jointing compounds. LOCTITE® 577™ has been tested and conforms to EN 751-1 for a class H compound and carries the **DVGW** certification.

Hydrogen Certified Adhesive

LOCTITE® 577™ has been tested and conforms to GASTEC QA Approval requirement 214 (AR-214).
Note: This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

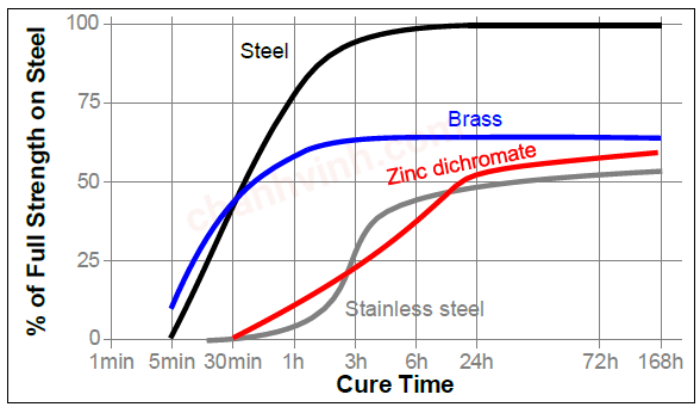
TYPICAL PROPERTIES OF UNCURED MATERIAL

Aluminium alclad @ 25°C	1.1
Viscosity, Brookfield - RVT, 25°C , mPa·s (cP):	
Spindle 6, speed 2.5 rpm,	100,000
Spindle 6, speed 20 rpm,	24,500

TYPICAL CURING PERFORMANCE

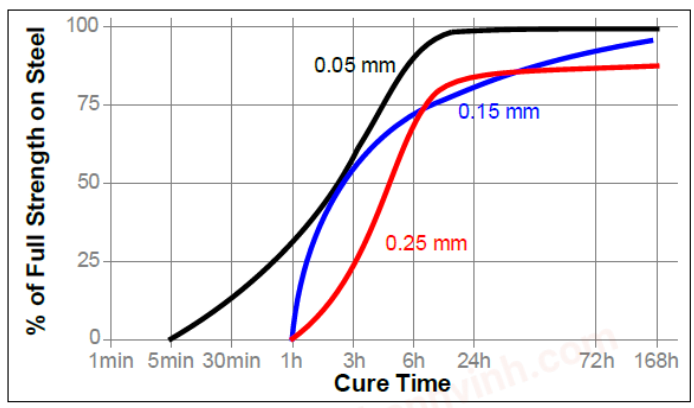
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the breakaway strength developed with time on M10 steel nuts and bolts compared to different materials and tested according to ISO 10964.



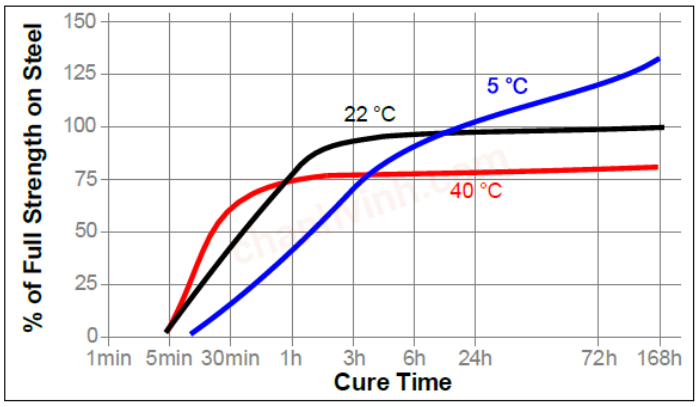
Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Gaps in threaded fasteners depend on thread type, quality and size. The following graph shows shear strength developed with time on steel pins and collars at different controlled gaps and tested according to ISO 10123.

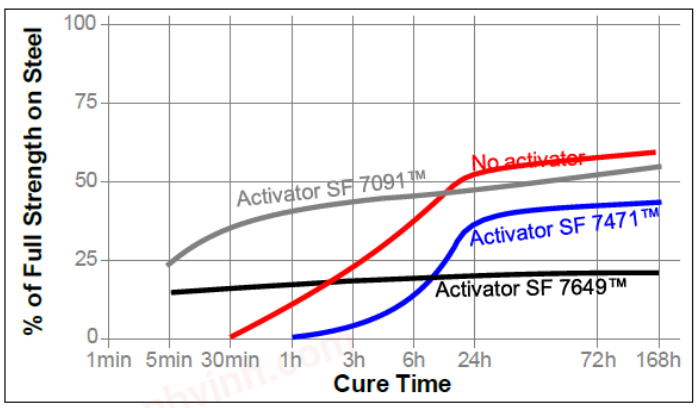


chanhvinh.com

Cure Speed vs. Temperature
The rate of cure will depend on the temperature. The graph below shows the breakaway strength developed with time at different temperatures on M10 steel nuts and bolts and tested according to ISO 10964.



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 breakaway strength developed with time on M10 zinc dichromate steel nuts and bolts using Activator SF 7471™, SF 7649™ and SF 7091™ and tested according to ISO 10964.



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Specific Heat, kJ/(kg·K)		2.0
Tensile strength, ISO 37	N/mm^2 (psi)	1.3 (190)
Tensile Modulus, ISO 37	N/mm^2 (psi)	168 (24,350)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 24 hours @ 22 °C

Breakaway Torque, ISO 10964:

M10 steel nuts and bolts	N·m (lb·in)	33 (295)
M10 brass nuts and bolts	N·m (lb·in)	23 (205)
M10 zinc dichromate nuts and bolts	N·m (lb·in)	20 (175)
M10 stainless steel nuts and bolts	N·m (lb·in)	15 (135)
M10 zinc phosphate nuts and bolts	N·m (lb·in)	30 (265)
M6 steel nuts and bolts	N·m (lb·in)	7 (62)
M16 steel nuts and bolts	N·m (lb·in)	69 (615)
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb·in)	33 (295)

Prevail Torque, ISO 10964:

M10 steel nuts and bolts	N·m (lb·in)	2.5 (22)
M10 brass nuts and bolts	N·m (lb·in)	1.3 (12)
M10 zinc dichromate nuts and bolts	N·m (lb·in)	3.7 (33)
M10 stainless steel nuts and bolts	N·m (lb·in)	1.9 (17)
M10 zinc phosphate nuts and bolts	N·m (lb·in)	1.8 (16)
M6 steel nuts and bolts	N·m (lb·in)	0.7 (6.2)
M16 steel nuts and bolts	N·m (lb·in)	7.5 (66)
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb·in)	3.8 (34)

Breakloose Torque, ISO 10964, Pre-torqued to 5 N·m:

M10 steel nuts and bolts	N·m (lb·in)	27 (240)

Max. prevail torque, ISO 10964, pre-torqued to 5 N·m:

M10 steel nuts and bolts	N·m (lb·in)	2.0 (18)

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm^2 (psi)	5 (725)

After 1 week @ 22 °C

Breakloose Torque, ISO 10964, Pre-torqued to 5 N·m:

M10 zinc phosphate nuts and bolts	N·m (lb·in)	30 (265)

chanhvinh.com

TYPICAL ENVIRONMENTAL RESISTANCE

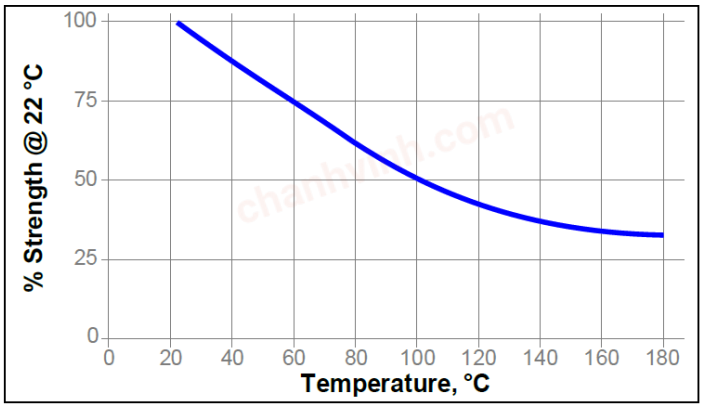
Cured for 1 week @ 22 °C

Breakloose Torque, ISO 10964, Pre-torqued to 5 N·m:

M10 zinc phosphate steel nuts and bolts

Hot Strength

Tested at temperature

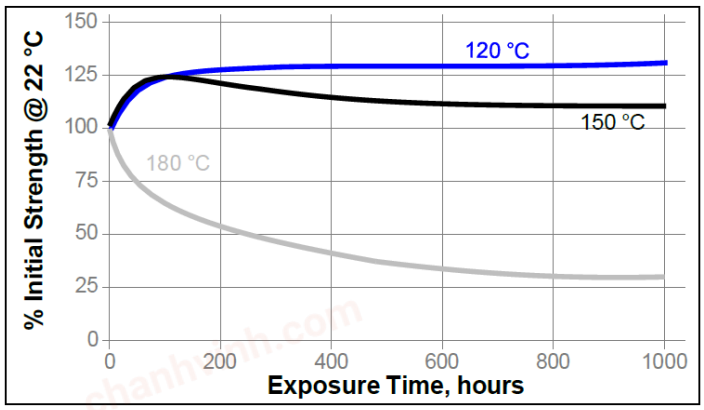


Cold Strength

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

Heat Aging

Aged at temperature indicated and tested @ 22 °C.



Chemical/solvent resistance

Aged under conditions indicated and tested @ °C.

		% of initial strength		
Environment	**°C**	**100 h**	**500 h**	**1000 h**
Acetone	22	95	65	70
DEF (AdBlue®)	22	125	125	130
Brake fluid (DOT 4)	22	115	115	120
Ethanol	22	110	90	90
Motor oil (5W30-Synthetic)	125	120	130	135
Unleaded Petrol	22	115	105	105
Water/glycol 50/50	87	105	95	90
B100 Bio-Diesel	22	105	115	115
E85 Ethanol fuel	22	100	90	90

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:

For Assembly

1. For best results, clean all surfaces (external and internal) with a LOCTITE® cleaning solvent and allow to dry.
2. If the material is an inactive metal or the cure speed is too slow, spray with LOCTITE® SF 7471™ or LOCTITE® SF 7649™ and allow to dry.
3. Apply a 360° bead of product to the leading threads of the male fitting, leaving the first thread free. Force the material into the threads to thoroughly fill the voids. For bigger threads and voids, adjust product amount accordingly and apply a 360° bead of product on the female threads also.
4. Using compliant practices, assemble and wrench tighten fittings in accordance with manufacturers recommendations.
5. Properly tightened fittings will seal instantly to moderate pressures. For maximum pressure resistance and solvent resistance allow the product to cure a minimum of 24 hours.
6. Where required, such as for potable water applications, remove any excess uncured product using lint-free cloth and cleaner LOCTITE® SF 7063 (or similar grade).

For Disassembly

1. Remove with standard hand tools.
2. Where hand tools do not work because of excessive engagement length or large diameters (over 1"), apply localized heat to approximately 250 °C (480 °F). Disassemble while hot.

For Cleanup

1. Cured product can be removed with a combination of soaking in a LOCTITE® solvent and mechanical abrasion such as a wire brush.

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.

chanhvinh.com

chanhvinh.com

Disclaimer
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. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. 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.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:
In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:
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.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:
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, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** 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.

Trademark usage
Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

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

Reference 4

This document was created and digitally signed by tdx.henkel.com at 2026-05-28T08:54:02.617Z