

LOCTITE® 5671™

March 2009

PRODUCT DESCRIPTION

LOCTITE® 5671™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Dimethacrylate ester
Appearance (uncured)	Off-white to tan waxy consistency ^{LMS}
Fluorescence	Positive under UV light ^{LMS}
Components	One component - requires no mixing
Cure	Anaerobic
Secondary Cure	Activator
Application	Thread sealing
Strength	Medium

LOCTITE® 5671™ 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. LOCTITE® 5671™ is recommended for industrial applications in the chemical processing, petroleum refining, pulp/paper, waste treatment, textile, utilities/power generation, marine, automotive, industrial equipment, gas compression and distribution industries. It is also recommended for industrial plant fluid power systems.

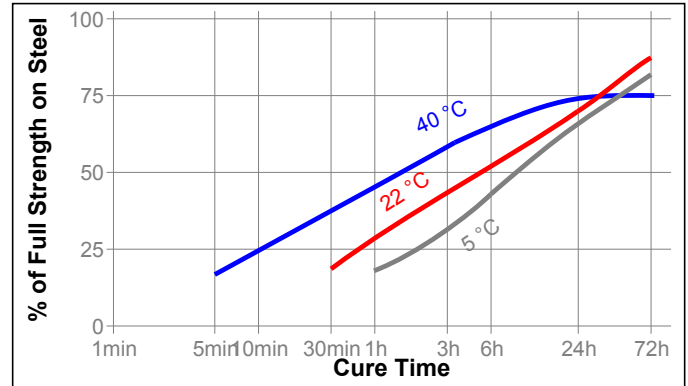
TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.03
Flash Point - See SDS	
Penetration, ISO 2137, unworked, 1/10 mm	70 to 130 ^{LMS}

TYPICAL CURING PERFORMANCE

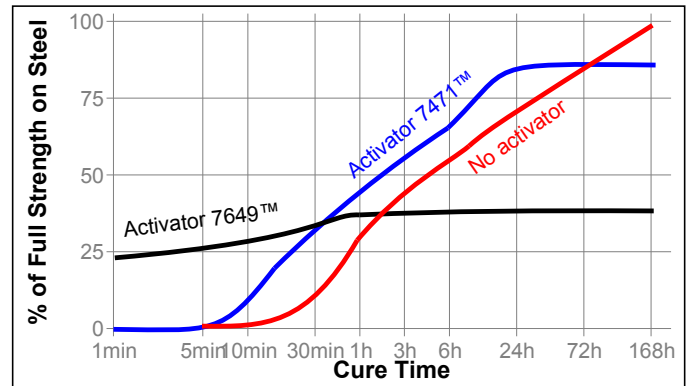
Cure Speed vs. Temperature

The rate of cure will depend on the temperature. The graph below shows the breakloose strength developed with time at different temperatures on 3/8 x 16 stainless steel nuts & bolts and tested according to ISO 10964, pretorqued to 5 N·m.



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 breakloose strength developed with time using Activator 7471™ or 7649™ on 3/8 x 16 stainless steel nuts & bolts and tested according to ISO 10964, pretorqued to 5 N·m.



TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 24 hours @ 25 °C

Breakloose Torque, ISO 10964, Pre-torqued to 5 N·m:
 3/8 x 16 stainless steel nuts and bolts N·m ≥7.5^{LMS}
 (lb.in.) (≥66)

Breakloose Torque, ISO 10964, Pre-torqued to 27 N·m:
 3/8 stainless steel tees and plugs, as received N·m 73
 (lb.in.) (650)
 3/8 malleable steel tees and steel pipe plugs N·m 114
 (lb.in.) (1,010)
 (degreased)

After 72 hours @ 22 °C

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

3/8 x 16 steel nuts and bolts (degreased)	N·m	37
	(lb.in.)	(330)
3/8 x 16 stainless steel nuts and bolts, as received	N·m	32
	(lb.in.)	(280)

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

3/8 x 16 steel nuts and bolts (degreased)	N·m	1.4
	(lb.in.)	(12)
3/8 x 16 stainless steel nuts and bolts, as received	N·m	4
	(lb.in.)	(35)

TYPICAL ENVIRONMENTAL RESISTANCE

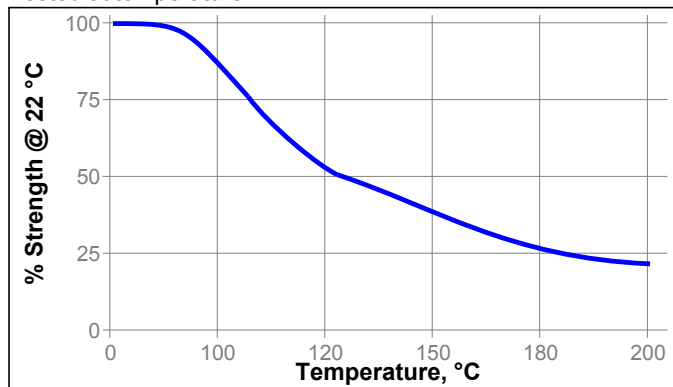
Cured for 1 week @ 22 °C

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

3/8 x 16 Stainless steel nuts & bolts

Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C

Temperature, °C	% of initial strength	
	500h	1000h
120	61	61
150	42	42
180	47	47
200	41	41

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

Environment	°C	% of initial strength		
		100 h	500 h	1000 h
Motor oil	150	48	42	34
Motor oil	125	67	55	55
Unleaded Petrol	22	100	100	100
Brake fluid	22	116	116	116
ATF	87	100	100	100
Water/ethylene glycol 50/50	87	81	45	45
Isopropanol	22	100	100	120

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

- For best results, clean all surfaces (external and internal) with a LOCTITE® cleaning solvent and allow to dry.
- Advance only enough product to use at the time of application.
- Remove any skin that may have formed on the top of the stick.
- 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.
- Using compliant practices, assemble and wrench tighten fittings in accordance with manufacturers recommendations.
- 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.

For Disassembly

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

For Cleanup

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

Loctite Material Specification^{LMS}

LMS dated March 11, 2009. 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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\mu\text{m} / 25.4 = \text{mil}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

Note:

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.

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