Technical Data Sheet

LOCTITE® 268

January 2014

PRODUCT DESCRIPTION

LOCTITE® 268 provides the following product characteristics:

Technology	Acrylic
Chemical Type	Dimethacrylate ester
Appearance (uncured)	Red, wax consistency[LMS]
Appearance (form)	Stick
Fluorescence	Positive under UV light[LMS]
Components	One component - requires no mixing
Cure	Anaerobic
Application	Threadlocking
Strength	High

LOCTITE® 268 is a high strength version of an anaerobic threadlocking material. It is supplied as a wax-like semi-solid, conveniently packaged in a self-feeding stick applicator. As with liquid anaerobic products, this material develops its cured properties in the absence of air when confined between close fitting metal surfaces. It achieves consistent strength and can be used on a variety of metal substrates. It is particularly well suited for applications where a liquid product may be too fluid to stay on a part or be difficult to apply. It stores easily and allows for direct contact to a threaded part during application to ensure even coverage.

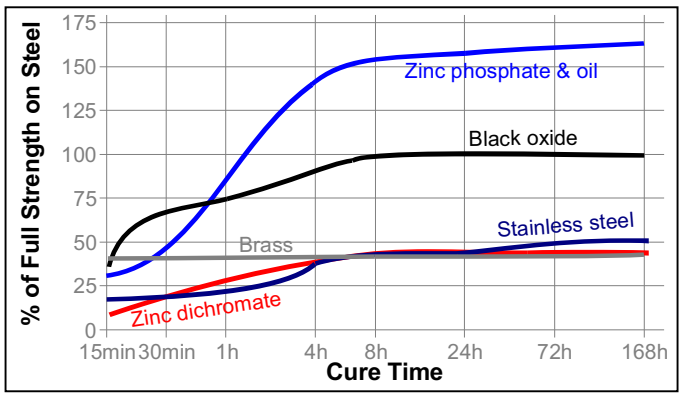
TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.03
Unworked Penetration, ISO 2137, 1/10 mm	90 to 150
Melting Point, °C	>65

TYPICAL CURING PERFORMANCE

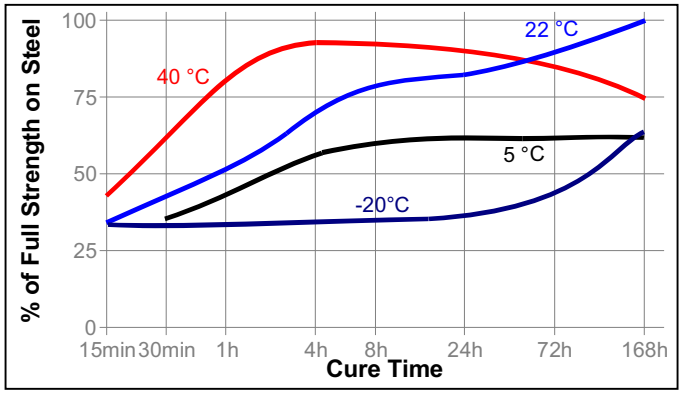
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the breakloose strength developed with time on M10 black oxide steel bolts and mild steel nuts compared to different materials and tested according to ISO 10964. All samples pre-torqued to 5 N·m. Product applied to bolts only.



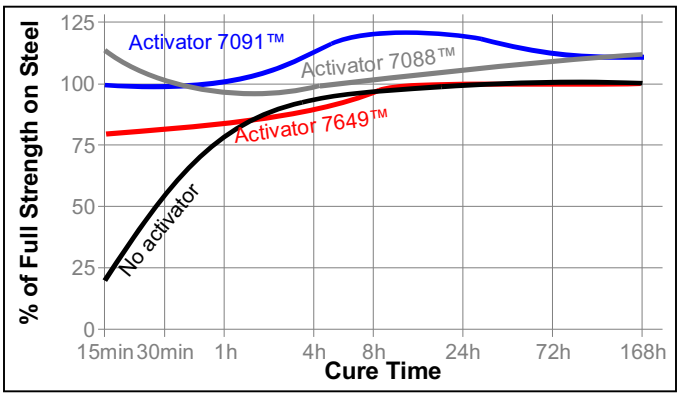
Cure Speed vs. Temperature

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 degreased steel nuts & bolts and tested according to ISO 10964. All samples pre-torqued to 5 N·m. Product applied to bolts only.



Cure Speed vs. Activator

Where cure speed is unacceptably long due to large gaps, applying activator to the surface may improve cure speed. However, this can reduce ultimate strength of the bond and therefore testing is recommended to confirm effect. The graph below shows the breakloose strength developed with time using Activator 7471™ and 7649™ on 3/8 x 16 zinc dichromate nuts and bolts and tested according to ISO 10964. All samples pre-torqued to 5 N·m. Product applied to bolts, activator to nuts.



TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 1 hour @ 25 °C

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

3/8 x 16 steel nuts (grade 2) and bolts (grade 5) (degreased)	N·m	≥8[LMS]	
	(lb.in.)	(≥71)	

Cured for 4 hours @ 25 °C

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

3/8 x 16 stainless steel nuts and bolts (degreased)	N·m	≥8[LMS]
	(lb.in.)	(71)

Cured for 24 hours @ 22 °C

Breakaway Torque, ISO 10964, Unseated:

3/8 x 16 steel nuts (grade 2) and bolts (grade 5) (degreased)	N·m	10
	(lb.in.)	(90)
M10 black oxide bolts and mild steel nuts (degreased)	N·m	10
	(lb.in.)	(90)
3/8 x 16 stainless steel nuts and bolts (degreased)	N·m	16
	(lb.in.)	(140)

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

3/8 x 16 steel nuts (grade 2) and bolts (grade 5) (degreased)	N·m	≥17[LMS]
	(lb.in.)	(≥150)
M10 black oxide steel nuts and bolts (degreased)	N·m	40
	(lb.in.)	(355)
3/8 x 16 stainless steel nuts and bolts (degreased)	N·m	23
	(lb.in.)	(205)

Cured for 168 hours @ 22 °C

Breakaway Torque, ISO 10964, Unseated,
Oil Tolerance: M10 black oxide steel bolts and mild steel nuts degreased and then reoiled in noted oil type. Data presented as a % of unoiled control.

Emulsion Oil: Aquasafe 21	66
Solvent-Based oil: SafeCoat DW 30X	95
Hydrophobic Oil: ELF Evolution SXR 5W-30	58

TYPICAL ENVIRONMENTAL RESISTANCE

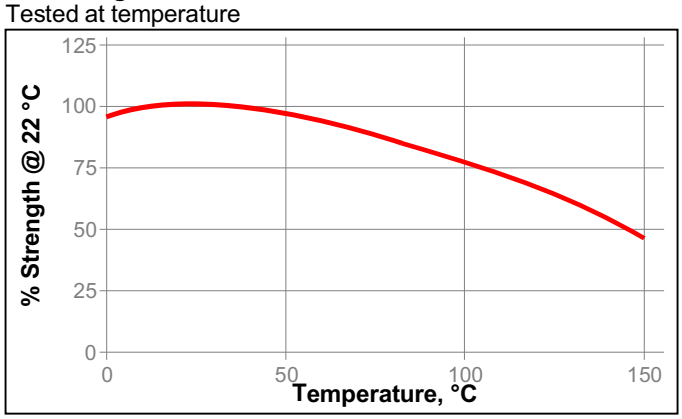
Cured for 72 hours @ 22 °C

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

3/8 x 16 zinc phosphate & oil nuts and bolts (degreased)

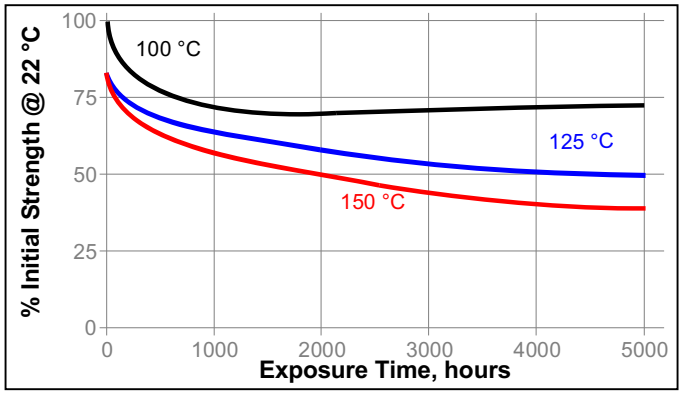
Hot Strength

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**	**1000 h**	**5000 h**
Motor oil (MIL-L-46152)	125	65	55
Gasoline	22	100	95
Brake fluid	22	90	100
Water/glycol 50/50	87	75	75
Ethanol	22	105	95
Acetone	22	95	100
B100 Bio-Diesel	87	110	110
E85 Ethanol fuel	22	100	95
DEF (AdBlue®)	22	110	120
Sodium Hydroxide, 20%	22	100	90
Phosphoric Acid, 10%	22	115	125

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. Advance only enough product to use at the time of application.
3. Remove any skin that may have formed on the top of the stick.
4. Apply sufficient product to fill the threads in the area where the nut will be engaged on the bolt.
5. Recap product after use.
6. Assemble and tighten as required.

For Disassembly

1. 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

1. 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 July 24, 2013. 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:
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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Reference 1.1