Technical Data Sheet

LOCTITE® 2400™

November 2024

Product description

LOCTITE® 2400™ provides the following product characteristics:

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

LOCTITE® 2400™ is designed for the locking and sealing of threaded fasteners which require normal disassembly with standard hand tools. 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® 2400™ reduces the migration of liquid product after application to the substrate. LOCTITE® 2400™ is particularly suitable for less active substrates such as stainless steel and coated surfaces such as zinc-flake or zinc plated, where disassembly with hand tools is required for servicing.

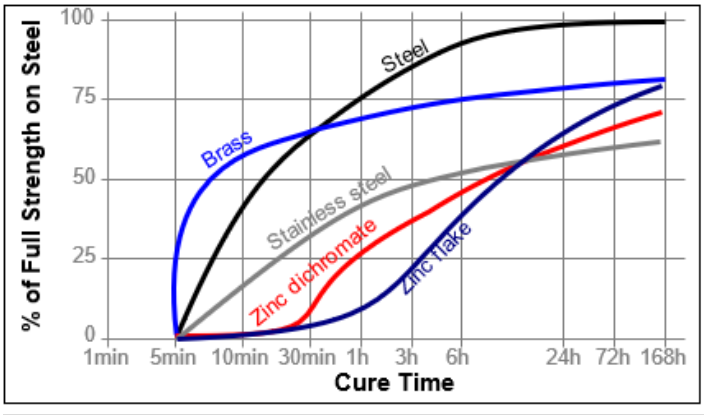
Typical properties of uncured material

Specific gravity @ 23°C	1.1
Viscosity, Brookfield - RVT, 25°C , mPa·s (cP):	3,100
Viscosity, Cone & Plate, 25°C, mPa·s (cP): Shear rate 129s^{-1}	350

Typical curing performance

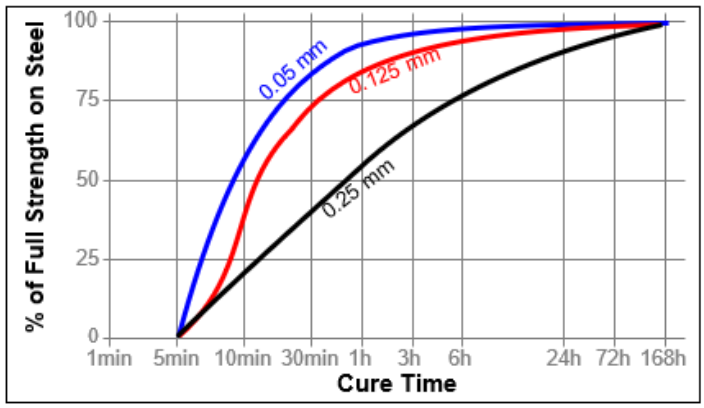
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the breakaway strength developed with time @ 23°C on M10 steel nuts and bolts compared to different materials and tested according to ISO 10964.



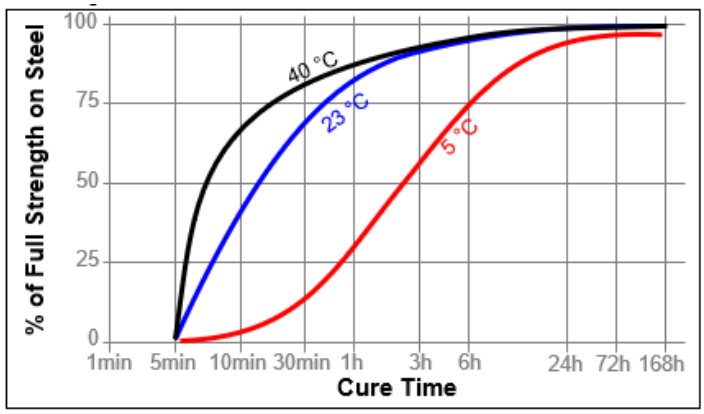
Cure speed vs. bond gap

The rate of cure will depend on the bondline gap. Gaps in threaded fasteners depends on thread type, quality and size. The following graph shows shear strength developed with time @ 23°C on steel pins and collars at different controlled gaps and tested according to ISO 10123.



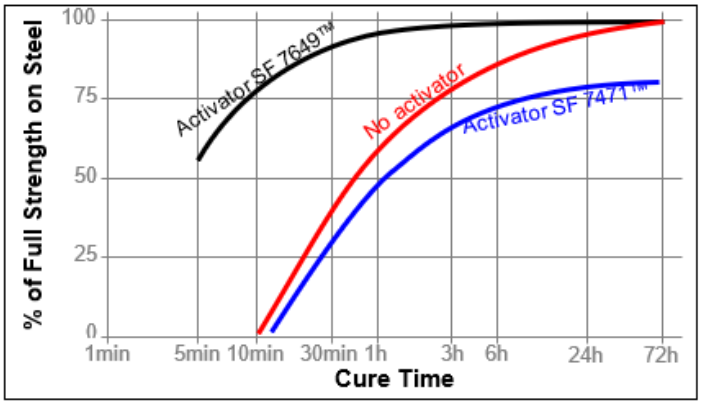
Cure speed vs. temperature

The rate of cure will depend on the temperature. The graph below shows the breakaway strength developed with time at different temperatures vs @ 23°C 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 @23°C on M10 zinc dichromate steel nuts and bolts using Activator SF 7471™ or SF 7649™ and tested according to ISO 10964.

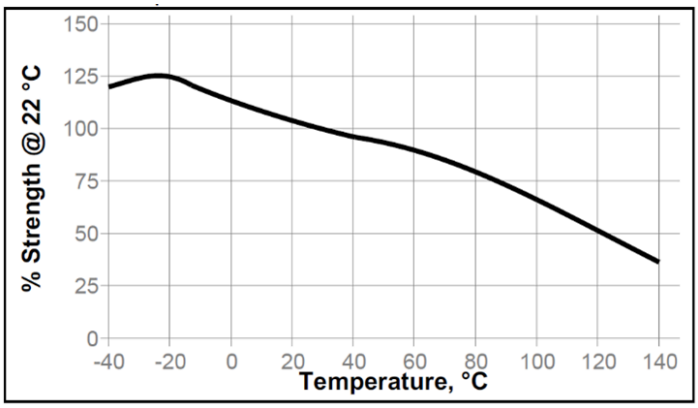


Typical performance of cured material
Cured for 23 hours @ 23°C

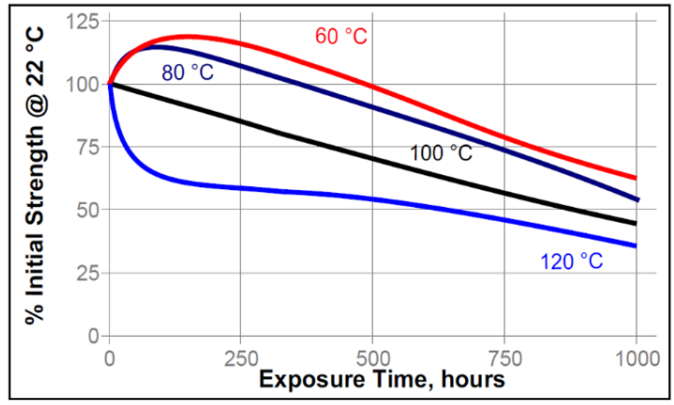
Breakaway torque, ISO 10964, unseated:		
M10 steel nuts and black oxide steel bolts	N·m (lb·in)	25 (220)
M10 zinc flake nuts and bolts	N·m (lb·in)	19 (170)
Prevail torque @180°, ISO 10964, unseated:		
M10 steel nuts and black oxide steel bolts	N·m (lb·in)	3 (27)
Breakloose torque, ISO 10964, pre-torqued to 5 N·m:		
M10 steel nuts and black oxide steel bolts	N·m (lb·in)	25 (220)
Compressive Shear Strength, ISO 10123:		
Steel pins and collars	N/mm^2 (psi)	11 (1600)

TYPICAL ENVIRONMENTAL RESISTANCE
Cured for 1 week @ 23 °C
Breakloose torque, ISO 10964, Pre-torqued to 5 N·m:
M10 zinc phosphate nuts and bolts

Hot strength
Tested at temperature



Heat aging/hot strength
Aged under conditions indicated and tested at temperature.



Chemical/solvent resistance
Aged under conditions indicated and tested @ 23°C.

		% of initial strength		
Environment	°C	100 h	500 h	1000 h
Motor oil	125	120	110	110
Water/glycol 50/50	87	110	105	110
Unleaded petrol	23	105	105	105
Diesel fuel	23	105	110	120
Brake fluid	23	110	105	120
Acetone	23	100	90	90
Ethanol	23	100	100	100

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 Material Safety Data Sheet.

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 cure speed is too slow, use appropriate activator. Please see the Cure Speed vs. Activator graph for reference. Allow the activator to dry when needed.
3. Shake the product thoroughly before use.
4. To prevent the product from clogging in the nozzle, do not allow the tip to touch metal surfaces during application.
5. For through-holes, apply several drops of the product onto the bolt at the nut engagement area.
6. For blind holes, apply several drops of the product to the lower third of the internal threads in the blind hole, or the bottom of the blind hole.
7. Apply a 360° bead of product to the leading threads ofthe 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.
8. Assemble and tighten as required.
9. Remove any excess uncured product with cleaner LOCTITE® SF 7063™ (or similar grade), if required.

For disassembly

1. Remove with standard hand tools.
2. In rare instances where hand tools do not work because of excessive engagement length, apply localized heat, approximately 250°C to nut or bolt. 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 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 Henkel representative.

Product Specification

The technical data contained herein are intended as reference only and are not considered specifications for the product.
Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and Certificate

Please contact Henkel representative for related approval or certificate of this product.

Data ranges

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.
Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

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

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.

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