



LOXEAL®

ENGINEERING ADHESIVES

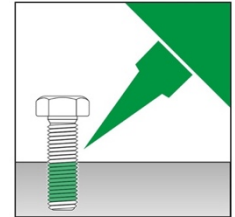
PUT IT ON & GO TO SLEEP



HIGH STRENGTH THREADLOCKING ADHESIVE

LOXEAL 54-03

Technical Data Sheet



Overview:

Loxreal® 54-03 Medium Strength Anaerobic Adhesive for thread locking of bolts and nuts of all types requiring to be dismantled. High resistant to heat, corrosion, vibrations, water, gases, oils, hydrocarbons and many chemicals.

Physical Properties:

Adhesive Type: Anaerobic Methacrylate
 Colour: Blue
 Fluorescence: Under Blue Light
 Specific Weight (+25°C g/ml): 1.05
 Viscosity at +25°C (mPas): 900 – 1,500
 Gap Filling: M24 / 0.20 mm
 Shelf Life: 12 months at 25°C in original unopened packaging

Curing Performance:

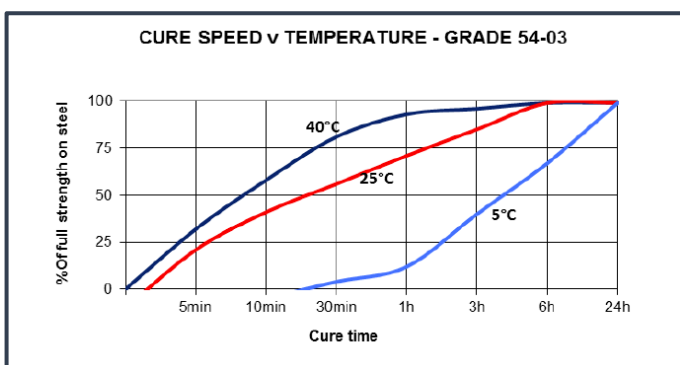
Curing rate depends on the assembly clearance, material surfaces and temperature. Functional strength is usually reached in 1 – 3 hours and full curing takes 24 – 36 hours. In case of passive surfaces and / or low temperature, a fast cure can be obtained using Loxeal activator 11, even if its use may reduce the final strength.

Curing Properties:

Bolt M10 x 20 ZN – quality 8.8 – nut h = 0.8 d at +25°C
 Handling cure time: 10 – 20 minute
 Functional cure time: 1 – 3 hours
 Full cure time: 5 – 10 hours
 Locking torque (ISO 10964):
 - Breakaway: 14 – 20 Nm
 - Preailing: 4 – 9 Nm
 Shear Strength (ISO 10123): 8 – 12 N/mm²
 Temperature range: -55°C to +150°C

Cure Speed v Temperature

The following graph shows the breakaway strength of the product (as %) at different temperatures. Steel bolts/nuts M10 x 20, tested according to ISO 10964.

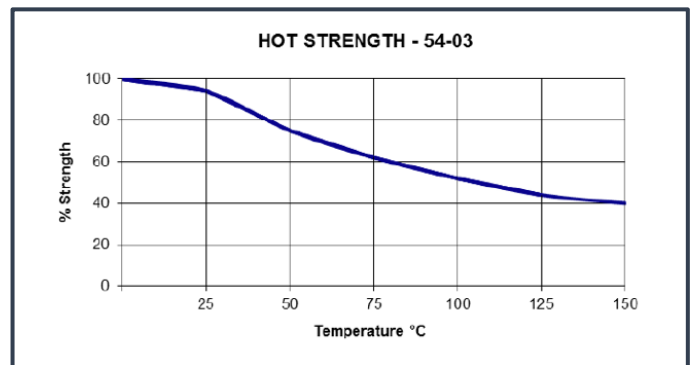


Environmental Resistance

Hot strength

The graph below shows the mechanical strength vs. temperature.

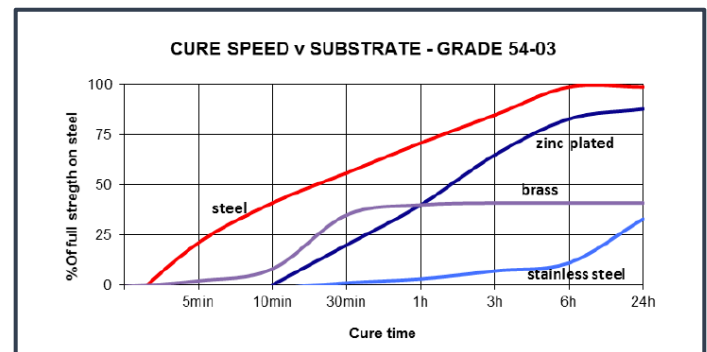
ISO 10964 – Bolt M10 x 20



Cure Speed v Substrate

The graph hereunder shows the breakaway strength development of the product (with time) on steel bolts/nuts M10 x 20 in comparison with several substrates.

Tested in accordance with ISO 10964 at +25°C



Storage:

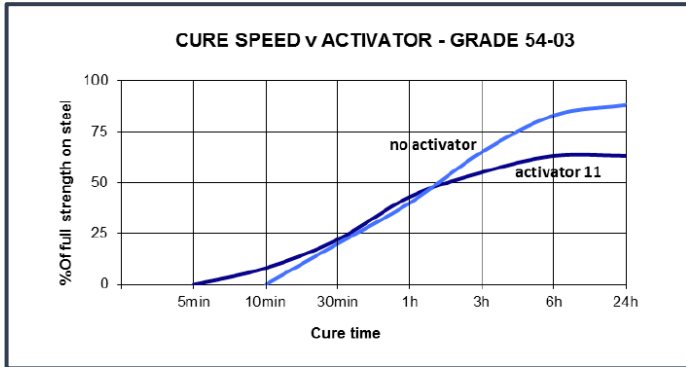
We recommend to store this product in a cool and dry place at temperature not exceeding +25°C. To avoid contaminations, do not refill containers with used products. For more information on applications, storage and handling, contact Loxeal Technical Service.

Cure Speed v Activator

Polymerization could be slowed down by substrate nature, large gaps; cure speed can be improved by applying appropriate activator to the substrate(s).

The following graph shows the breakaway strength of the product (as %) and the cure speed developments using our activator 11 compared to the one with no activator.

Zn bolts/nuts M10 x 20, tested according to ISO 10964 at a temperature of +25°C.



Safety and Handling:

Consult the Safety Data Sheet before use.

Note:

The data contained herein, obtain in Loxeal laboratories, are given for information only; if specifics are required, please contact Loxeal technical department. Loxeal ensures abiding quality of supplied products according to its own specifics. Loxeal cannot assume responsibility for the results obtained by others which methods are not under Loxeal control. It is user's responsibility to determine suitability for user's purpose of any product mentioned herein. Loxeal disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from the sale or use of Loxeal products. Loxeal specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Chemical Resistance:

Aged under conditions below after 24 hours from polymerization at indicated temperature.

Substance	°C	Resistance after 100 h	Resistance after 1,000	Resistance after 5,000 h
Motor oil	125	Excellent	Excellent	Excellent
Gear box oil	125	Excellent	Excellent	Excellent
Gasoline	25	Excellent	Excellent	Excellent
Water/glycol 50%	87	Discrete	Discrete	Discrete
Brake oil	25	Excellent	Excellent	Excellent

For information on resistance with other chemicals, contact Loxeal Technical Service.

Direction for use:

The product is recommended for use on metal surfaces.

1. Clean the surfaces with Loxeal **Cleaner 10** and allow to dry.
2. For through hole: Apply a bead of adhesive across the contact length of the threads.
3. For blind holes: Apply several drops of the products down the thread to the bottom of the hole.
4. Assemble and pre-torque as required and allow the parts to achieve functional strength before disturbing them.
5. The usage of **Loxeal activator 11** can be considered to reduce cure time: allow to dry and proceed as per paragraph 4.

Disassembly and Cleaning

To disassemble the pieces, use conventional tools. When possible, disassembly is made easier by heating the pieces at +150°C to +250°C and hot assembling them.

Remove the cured product mechanically and finish cleaning with acetone.

Warnings

This adhesive is not approved for usage with neither pure nor gaseous oxygen.

It is not suitable for application on plastics.

The liquid product may damage paints and elastomers. If the product gets in contact, even accidentally with some thermoplastics, stress cracking of the plastics could happen.

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