

Description

Fast curing anaerobic adhesive for metals, with high mechanical resistance, designed to seal and lock threaded joints and cylindrical couplings.

Provides high resistance to temperature, vibration, chemical agents and aging. Highly resistant to unscrewing on yellow brass, nickel-plated and chromed fittings.

Approved as threaded joints sealant for gas pipes under EN 751-1 (DIN DVGW nr. NG-5146BQ0134).

WRAS listed for contact with wholesome (potable) water (WRAS-approved material BS6920:2000)

Keeps the sealing property until the temperature of +200°C for short periods.

Physical properties

| | |
|---------------------------------------|---------------------------------------|
| Composition : | anaerobic methacrylate |
| Colour : | green |
| Viscosity (+25°C - mPa s) : | 400 - 1.000 |
| Specific weight (+25°C - g/ml) : | 1,1 |
| max diameter of thread/ gap filling : | M 25 / 3/4" / 0,20 mm |
| Flash point : | > +100°C |
| Shelf life +25°C : | 1 year 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.

Curing properties

Handling cure time (tests performed at RT on standard 1/2" threaded connections, fluctuations are possible depending on temperature and tolerances) :

| | |
|---------------------------------|---------------------------|
| On brass (OT 58) : | < 60 s |
| On nickel-plated and chromed : | 5 - 20 minutes |
| On steel : | 2 - 5 minutes |
| On Aluminum : | 6 - 18 minutes |
| Functional cure time : | 1 - 3 hours |
| Full cure time : | 2 - 4 hours |
| Locking torque (ISO 10964) : | |
| - breakaway: | 25 - 35 N m |
| - prevailing: | 40 - 60 N m |
| Shear strength (ISO 10123) : | 25 - 35 N/mm ² |
| Impact resistance (ASTM D950) : | 5 - 12 kJ/m ² |
| Temperature range: | -55°C/+200°C*** |

***Note: sealing properties are tested in temperature on specimens consisting of a set of fittings and 1 1/2" pipe tightened to 100 N m and subject to the following thermal cycle after 24 hours from adhesive curing at room temperature:

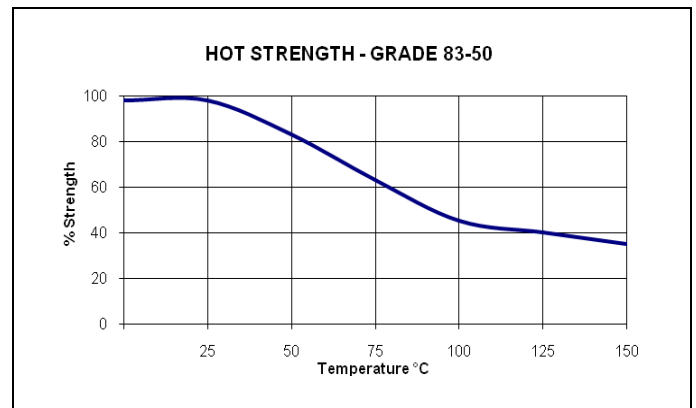
- 1) Tests series are run for 24 hours from T = +150°C and leakage are checked at room temperature by inflate pressurized air into the pipe (at 7,5 bar) immersed in water (air bubbles detection mode)
- 2) Tests are carried out until temperature is effecting a leak in the sealing

Environmental resistance

Hot strength

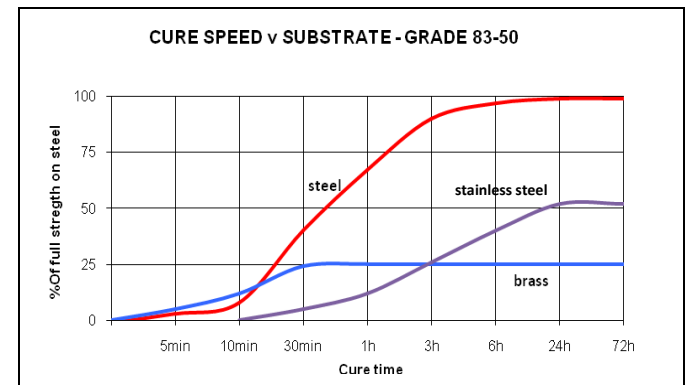
The graph below shows the mechanical strength vs. temperature.

ISO 10964 - Bolt M10 x 20 Zn - quality 8.8 - nut h = 0,8 d at +25°C - pre-torque 5 N m



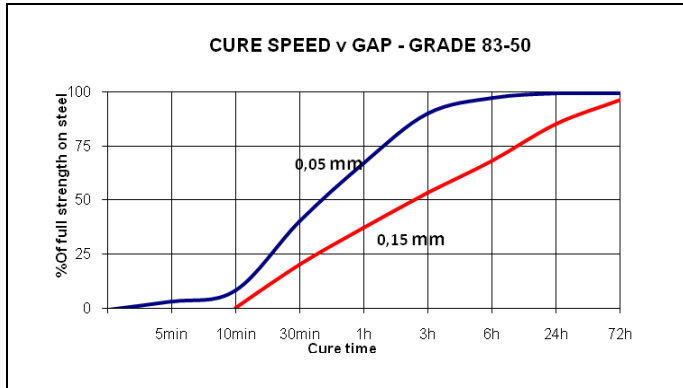
Cure speed v substrate

The graph hereunder shows the breakaway strength development of the product (with time) on steel pin/collars tested in accordance with ISO 10123 at +25°C.



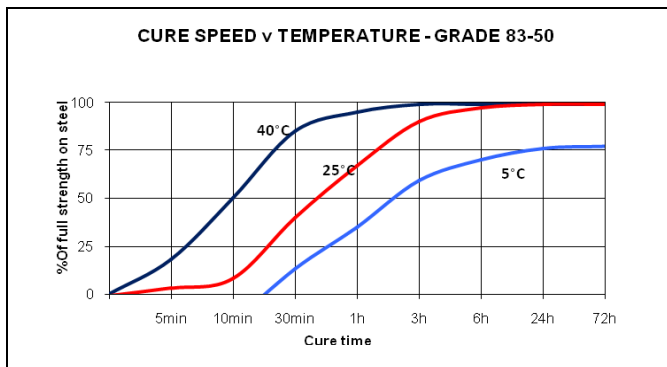
Cure speed v gap

The graph below shows the product shear strength (as %) at different increasing controlled gaps.
Specimens - Steel pins/collars, tested in accordance with ISO 10123 at + 25°C.



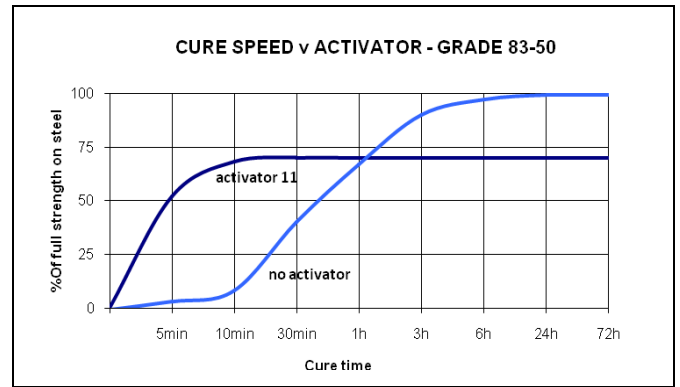
Cure speed v temperature

The following graph shows the breakaway strength of the product (as %) at different temperatures.
Specimens – steel pin/collars tested in accordance with ISO 10123.



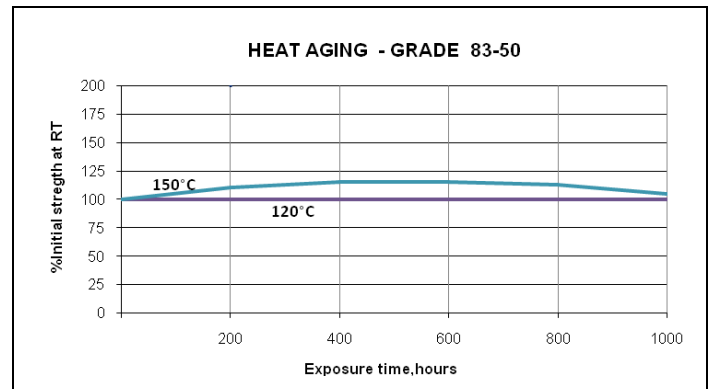
Cure speed v activator

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 ones with no activator.
Specimens – steel pin/collars tested in accordance with ISO 10123.



Heat aging

The graph below shows the strength resistance behavior as a function of temperature/time .
ISO 10964 - Bolt M10 x 20 Zn - quality 8.8 - nut h = 0,8 d at +25°C - pre-torque 5 N m



Chemical resistance

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

| Substance | °C | Resistance after 100 h | Resistance after 500 h | Resistance after 1000 h |
|-----------|----|------------------------|------------------------|-------------------------|
|-----------|----|------------------------|------------------------|-------------------------|

| | | | | |
|------------------|-----|-----------|-----------|-----------|
| Motor oil | 125 | excellent | excellent | excellent |
| Gear box oil | 125 | excellent | excellent | excellent |
| Gasoline | 25 | excellent | excellent | excellent |
| Water/glycol 50% | 87 | excellent | good | good |
| Brakes oil | 25 | excellent | good | discrete |

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

General instructions for use

The product is recommended for use on metal thread joints only.

Clean and degrease parts before bonding with Loxeal Cleaner 10.

Cut back stepped nozzle to give required bead size. Do not contaminate adhesive with metal.

Apply continuous bead circumferentially, 1-2 threads from the leading edge. Ensure sufficient is applied to give a complete seal.

Assemble and tighten the joint.

Wipe off any uncured excess adhesive from outside the joint.

Allow to cure. The time taken to reach a full cure will depend on the metals being used.

TIME TO CURE FOR USE WITH WHOLESOME (POTABLE) WATER

For Brass and Copper allow 24 hours at +20°C.

For Stainless Steel and Aluminium allow 7 days at +20°C.

WRAS Approval number: 1508513 for use with cold and hot water up to +85°C.

Liquid product can damage coating, some plastics and elastomers and late stress-cracking events might be induced if used with some thermoplastics.

For application on non metal materials, contact Loxeal Technical Service. For disassembly, use normal tools and eventually heat pieces at +150°C/+250°C, remove any residue of cured product mechanically and clean parts with Acetone

Storage

Keep product in a cool and dry room at no more than +25°C.

To avoid contaminations do not refill containers with used product. For further information on applications, storage and handling contact Loxeal Technical Service

Safety and handling

Consult Material Safety Data Sheet before use.

Note

The data contained herein, obtained in Loxeal laboratories, are given for information only; if specifics are required, please contact Loxeal Technical Department.

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