

# Technical Data Sheet

## LOXEAL 18-10 PIPE SEALANT

### Description

Anaerobic adhesive for sealing of metal thread pipe joints. Suitable for gas, LP gas, compressed air, gasoline and oil, industrial fluids, CFC, water and several chemicals. Low friction coefficient will assure easy assembly. Thixotropic property prevents migration from thread of the sealant before or during curing. It replaces P.T.F.E. tape and yarn. Cured product provides elastic film. Shocks and vibrations resistant; unaffected sealing properties in the temperature range from -55 to +150°C. Easy dismantling is assured even after years.

Approvals for natural gas and LP gas in vapour state

**Europe** : approved to EN751-1 by DIN-DVGW NG 5146AR0574 from -20°C to +150°C up to 2" pipe size.

**Australia** : approved by AGA n.5047 up to 5 bar and 2" pipe size.

### Physical properties

Composition : anaerobic methacrylate  
Colour : white  
Fluorescence : under blue light  
Viscosity (+25°C - mPa s) : 17.000 - 70.000 thixo  
Friction coefficient  $\mu$  : 0.10  
Specific weight (+25°C - g/ml) : 1,05  
Max diameter of thread/gap filling : 2" - 0,30 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 (typical)

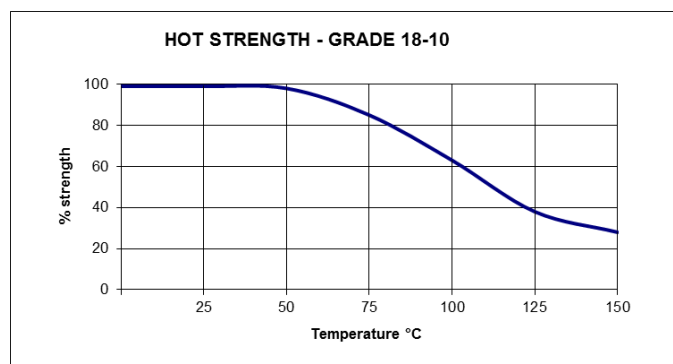
Bolt M10 x 20 Zn - quality 8.8 - nut h = 0,8 d at +25°C  
Handling cure time : 20 - 40 minutes  
Functional cure time : 1 - 3 hours  
Full cure time : 5 - 10 hours  
Locking torque (ISO 10964)  
breakaway : 6 - 11 N m  
prevailing : 2 - 5 N m  
Shear strength (ISO 10123) : 4 - 6 N/mm<sup>2</sup>  
Tensile strength (ASTM D-2095) : 3 - 5 N/mm<sup>2</sup>  
Elongation at break : over 100%  
Temperature range : -55°C/+150°C

### Environmental resistance

#### Hot strength

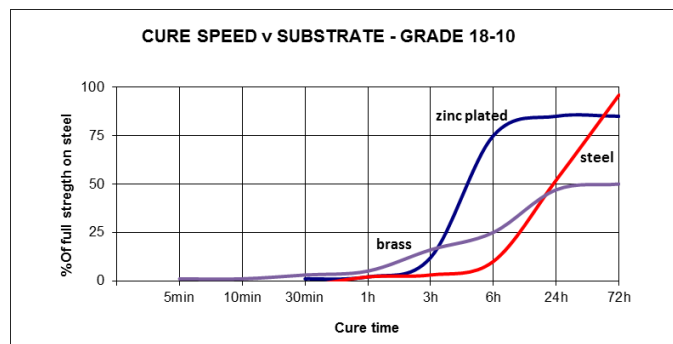
The graph below shows the mechanical strength vs. temperature.

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



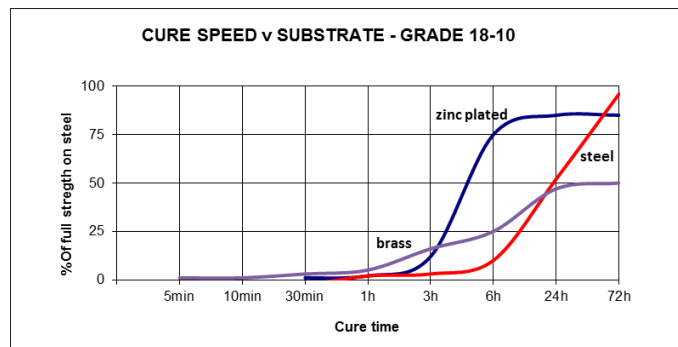
#### Cure speed v substrate

The graph hereunder shows the breakaway strength development of the product (with time) on steel nuts/bolts M10 x 20 in comparison with several substrates. Tested in accordance with ISO 10964 at + 25°C.



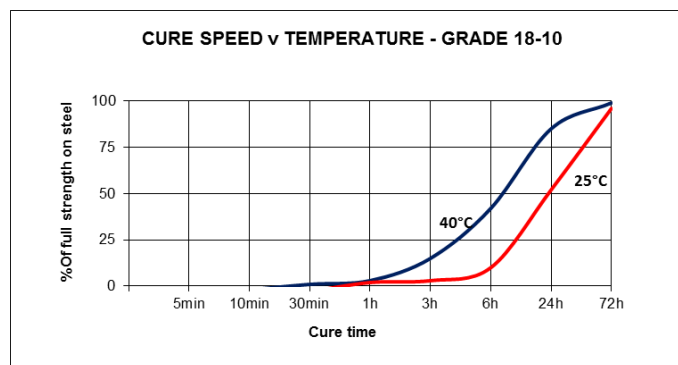
### Cure speed v gap

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



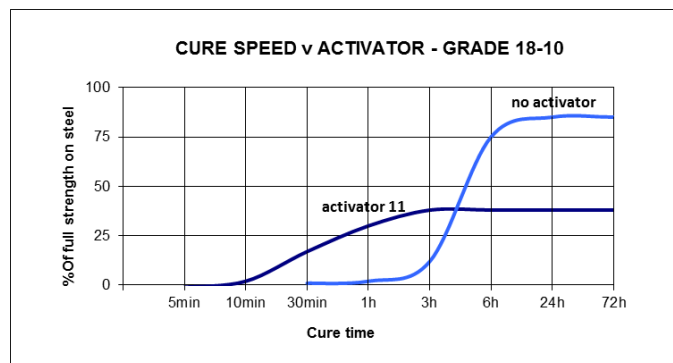
### Cure speed v temperature

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



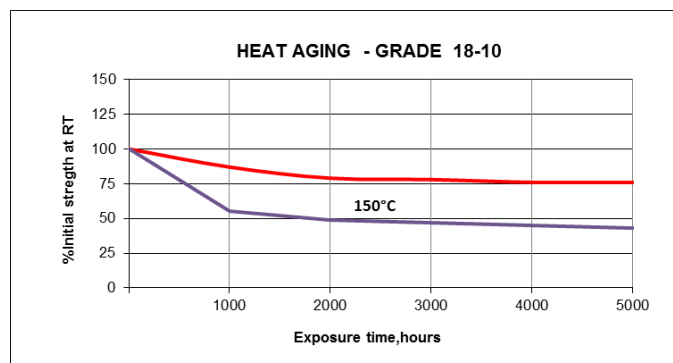
### Cure speed v activator

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



### Heat aging

The graph below shows the strength resistance behavior as a function of temperature/time .  
Zn nuts/bolts M10 x 20 - (pre-torque of 5 N m, cured 7 days at +25°C) - aged at temperature indicated and tested at +25°C according to ISO 10964.



### Chemical resistance

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

Substance	°C	Resistance after 100 h	Resistance after 1000 h	Resistance after 5000 h
Motor oil	125	discrete	discrete	discrete
Gear box oil	125	discrete	discrete	discrete
Gasoline	25	excellent	excellent	excellent
Water/glycol 50%	87	excellent	good	slight
Brakes oil	25	excellent	excellent	excellent

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

**Directions for use**

The product is recommended for use on metal surfaces.  
Clean and degrease parts before bonding with Loxeal Cleaner 10.  
Apply product to fill completely the gap, assemble parts and hold on for curing time. 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**

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