

## LOXEAL 58-11

### Description

Anaerobic curing adhesive for sealing of metal thread joints only.  
 Approved for Gas (DVGW, DIN-EN 751-1), high pressure gas and GLP (Australian Gas Association) for working pressure up to 20 Bars  
 Approved for use with gaseous oxygen up to 10 Bars and +60°C (BAM).  
 Loxeal 58-11 is a WRAS approved material, as listed, it is suitable for use in contact with wholesome (potable) water.  
 Approved for contact with drinking water (GLOBAL MARK).  
 NSF registered in cat. P1 as acceptable for use as a sealant in and around food processing area  
 It replaces PTFE tape and yarn and gives instant sealing against moderate pressure. It seals against gas, water, LPG, hydrocarbons, oils and other chemicals. Thixotropic property prevents migration of sealant from thread before or during curing.  
 Shock and vibrations resistant, sealing properties unaffected over the temperature range from -55°C to +150°C.

### Physical properties (typical)

Composition: anaerobic methacrylate  
 Colour: yellow  
 Fluorescence: under blue light  
 Viscosity (+25°C - mPa s): 20.000 - 80.000 thixotropic  
 Specific weight (+25°C - g/ml): 1,1  
 gap filling: M56 / 2" / 0,30 mm  
 Flash point: > +100°C  
 Shelf life +25°C: 1 year in original unopened packaging

### Curing performance (typical)

Curing rate depends on the assembly clearance, material surfaces and temperature. In case of passive surfaces and/or low temperature a fast cure can be obtained using Loxeal activator 11.

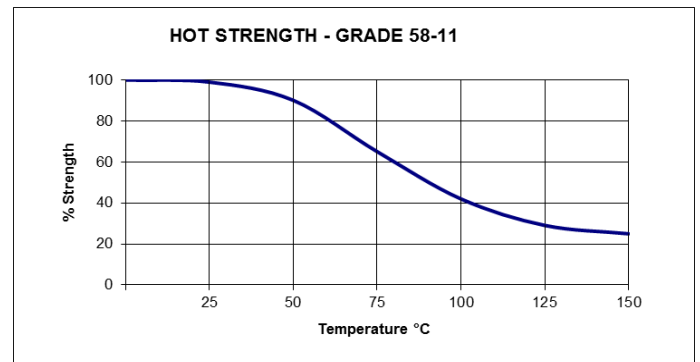
### Curing properties (typical)

Bolt M10 x 20 Zn - quality 8.8 - nut h = 0,8 d at +25°C:  
 Handling cure time: 15 - 30 minutes  
 Functional cure time: 1 - 3 hours  
 Shear strength (ISO 10123): 6 - 13 N/mm<sup>2</sup>  
 Locking torque (ISO 10964):  
 - breakaway: 18 - 24 N m  
 - prevailing: 7 - 14 N m  
 Temperature range: -55°C/ +150°C

### Environmental resistance

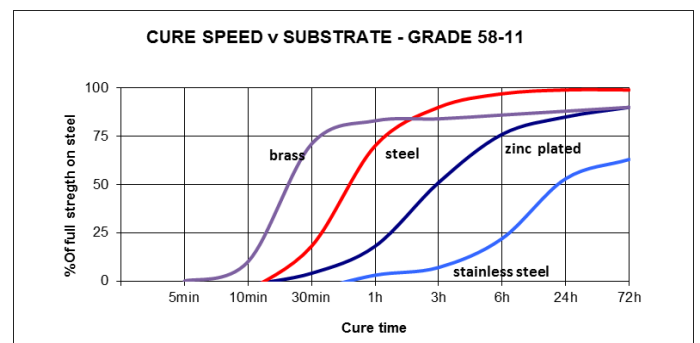
#### Hot strength

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



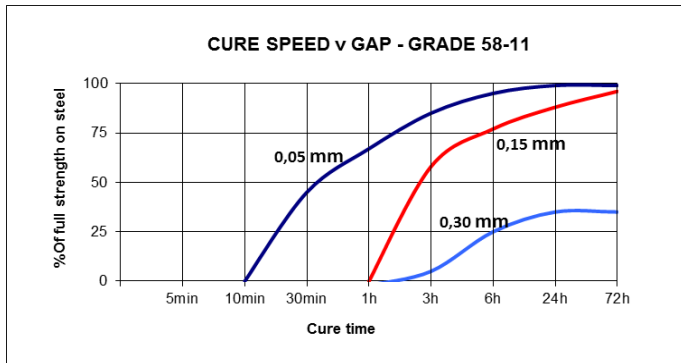
#### Cure speed v substrate

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



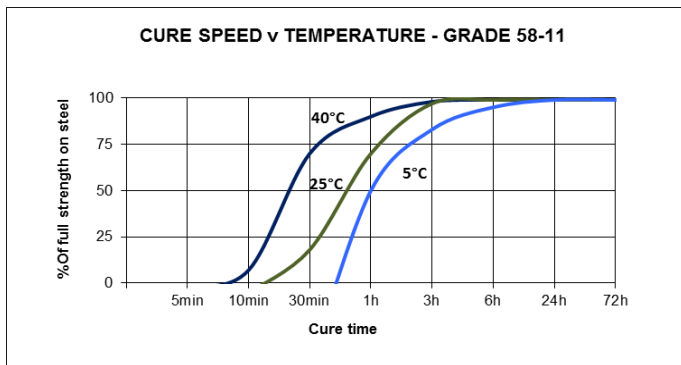
**Cure speed vs gap**

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



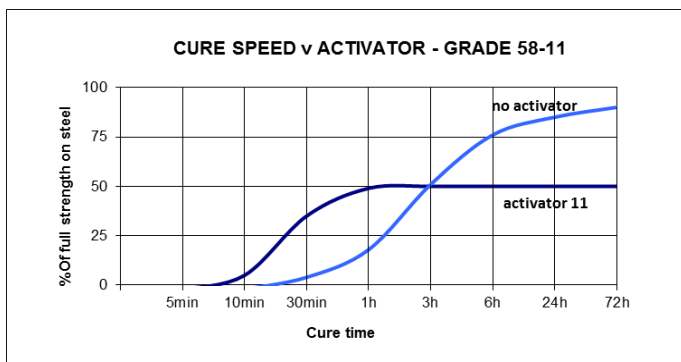
**Cure speed v temperature**

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.



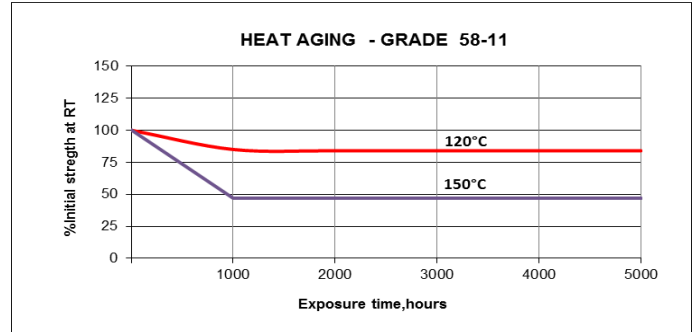
**Cure speed v activator**

Curing could be slowed down by the nature of the substrate or 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 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	excellent	good
Hydraulic oil	25	excellent	excellent	good

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, Copper and Cast Iron allow 24 hours at +21.1°C.  
 For Stainless Steel and Aluminium allow 7 days at +21.1°C.  
 WRAS Approval: 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, handling and disposal**

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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