LOXEAL ENGINEERING ADHESIVES
UNI EN ISO 9001 - UNI EN ISO 14001
Registered Quality and Environment Management System Company

Technical Data Sheet

LOXEAL 83-50

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).
Suitable for use with hot and cold potable water up to +85°C (WRAS-approved material BS6920:2000)
Positively tested by NSF Laboratoires, Michigan, USA, according to ANSI 61 for potable water contact.
Keeps the sealing property until the temperature of +200° C for short periods.

Physical properties

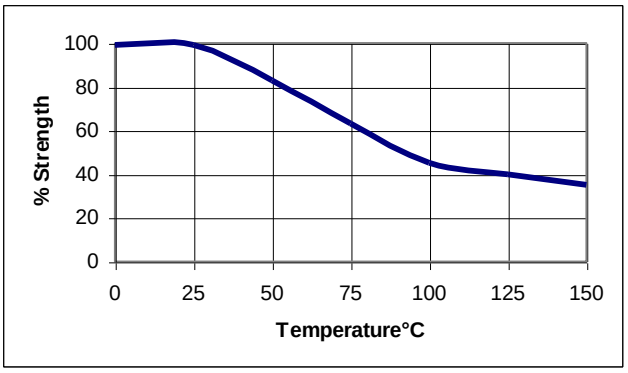
Composition :	anaerobic methacrylate
Colour :	green
Viscosity (+25°C - mPa s) :	400 - 1.000
Specific weight (+25°C - g/ml) :	1,1
max diameter of thread/ gap filling :	M 25 / ¾" /0,20 mm
Flash point :	> +100°C
Shelf life +25°C :	1 year in original unopened packaging

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.

Environmental resistance

The graph below shows the mechanical strength vs. temperature.
Steel specimen - ISO 4587



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
Shear strength (ISO 10123) :	25 - 35 N/mm²
* Locking torque (ISO 10964) :	
- breakaway:	25 - 35 N m
- prevailing:	40 - 60 N m
* 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

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

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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

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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