

LOXEAL 4429

Description

Loxéal 4429 is a toughened, high-temperature resistant, two-part epoxy resin. Specifically developed for composite structural bonding, it provides a good adhesion also on other substrates such as wood, metals, ceramic and many plastics. Thanks to its thixotropy it is suitable for vertical bonding and to fill large gaps. It provides a tough adhesion, high resistance to vibrations and outstanding peel and shear strength up to +120°C (with peaks of +140°C).

Typical physical properties

Part:	A	B
Composition:	epoxy resin	amine
Colour:	white	black
Mixing ratio vol.:	2:1	
Viscosity (+25°C - Pa s):		
- Spindle 7, 20rpm	200.000	60.000
- Spindle 7, 2rpm	300.000	150.000
Specific weight (g/ml):	1.1	1.0
Gap to fill:	0,1 - 5,0 mm	
Shelf life:	1 year at +25°C in unopened packaging	

Typical curing properties at +25°C

Colour after mixing:	black
Pot life:	2-4 hours*
Fixture time:	6-9 hours
Functional cure time:	
at +25°C	24-36 hours
at +60°C	1 hour
Full cure time:	
at +25°C	72 hours
at + 60°C	2 hours

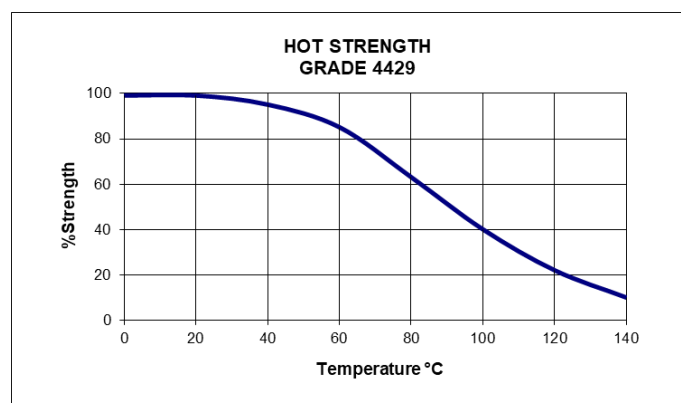
*= time detected on a 10g total mass mixture A+B

Typical properties at +25°C of cured adhesive

Shear strength, (ISO 4587), (N/mm ²):	
Mild steel (abraded)	25 CF
Aluminium T3 (abraded)	28 CF
Stainless steel 304 (abraded)	28 CF
CFRP (abraded)	20 CF
GFRP (abraded)	17 CF
PC	4 CF
PEEK	5 CF
Peel strength (ISO 4578) (N/25mm):	
Aluminium T3:	200 CF
	CF=Cohesive failure
Impact strength (ASTM D950):	40 kJ/m ²
Tensile strength (ASTM D638):	41 MPa
Elongation at break (ASTM D638):	6%
Elastic modulus (ASTM D638):	1.6 GPa
Hardness (ASTM D 2240):	70 Shore D
Tg (DMA), after 72h at 25°C:	66°C

Environmental resistance

The graph below shows the mechanical strength of the product (%) vs. temperature.
 Specimen steel - ISO 4587



Directions for use

- **Surfaces preparation**
 For best results we recommend to scratch the surfaces with a tool and then to degrease and clean with Loxéal Cleaner 10 or Acetone and let dry for a few seconds.
- **Mixing**
 The resin and the hardener need to be mechanically mixed before use in the ratio of weight and/or volume in compliance with technical specifications until a homogeneous colour is reached. Products are available in dual cartridges with static mixers (separately provided) allowing a direct and correct product application on the substrates to bond, completely discarding the first 3/5 cm of the extruded product. Avoid excess of product blend because heating produced by chemical reaction may cause risk and loss of product.
- **Pot life**
 Pot life of the mixed product may vary from few minutes to some hours at room temperature according to the resin and the hardener used. Higher temperature reduces the pot life. Apply product at temperature higher than +15°C.
- **Assembly**
 Parts to be bonded shall be assembled immediately after product application and kept close until full polymerization without providing any mechanical stress.

- **Cleaning**

Excess of product can be removed with Acetone or any other solvent based cleaner compatible with the substrates to bond. Application tools and dosing systems shall be cleaned before the product is hardened. Cured product can be removed only mechanically.

Warnings

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

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. 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 sale or use of Loxeal products. Loxeal specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.

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