

LOXEAL 4401

Description

Loxéal 4401 is a toughened, semi-flexible, high-temperature resistant, two-part epoxy resin, which provides good adhesion on a variety of substrates as wood, metal, ceramics and many types of plastics and composites.

Mixing ratio 2:1 by volume. It provides a strong adhesion with high peel, cut and shear strength up to +120°C temperature with peaks at +140°C. Excellent resistance at high temperature for short periods, as i.e. in stove enamelling cycles.

Physical properties

Related to product extruded through the proper mixer nozzle.

The predetermined ratio between the two components is 2:1.

Part:	A	B
Composition:	epoxy resin	amine
Colour:	white	black
Mixing ratio vol.:	2 : 1	
Viscosity (+25°C - Pa s):	60 - 120 thixo	50 - 100 thixo
Specific weight (g/ml):	1.16	1.10
Gap to fill:	0,1 - 5,0 mm	
Shelf life (at +25°C):	1 year in unopened packaging	

Curing properties at +25°C (typical)

Pot life:	10 - 12 minutes**
Fixture time:	60 - 90 minutes
Functional cure time:	24 - 48 hours
Full cure (at +25°C):	4 - 7 days***
Colour after mixing:	grey
Shear strength (at +25°C on steel ISO 4587):	20 - 30 N/mm ²
Peel strength (Al):	150 - 300 N/25mm*
Hardness (Shore D):	65 - 70
Temperature range:	-40/+120°C (peaks up to +140°C)

*= typical strength at temperature $\geq +80^\circ\text{C}$

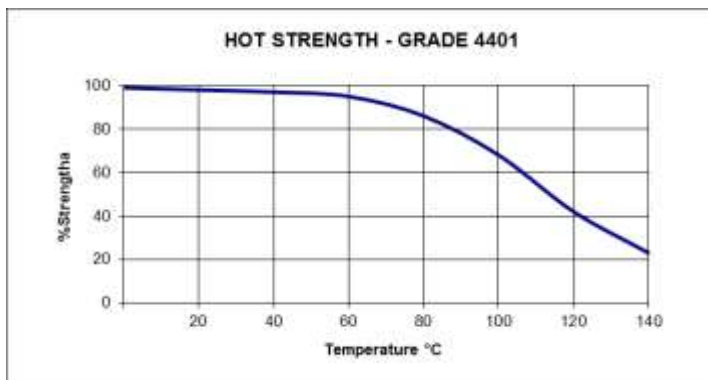
**= time detected on a 3g total mass mixture A+B

***= typical alternate cure at +80°C/1h

Environmental resistance

The graph below shows the mechanical strength of the product (%) vs. temperature.

Specimen steel - ISO 4587



Directions for use

1. 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.

2. 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.

3. 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.

4. Assembly

Parts to be bonded shall be assembled immediately after product application and kept close until full polymerization without providing any mechanical stress.

5. 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 Loxéal 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. 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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