

Version: 11/2011

Use

Letoxit LH 229 is two-component paste adhesive, curing at room or higher temperature. It is applicable for bonding of glass laminates, metals and other materials. It is possible to use as a paste for filling interstices with max. thickness 10 mm.

Special properties

Letoxit LH 232 has excellent shear strength, heat resistance and salt water resistance.

Type

Two-component epoxy adhesive/paste.

Mixture ratio

	Letoxit® PR 232 component A + Letoxit® PR 232 component B
Parts by weight	100 : 50
Parts by volume	100 : 50

Use**Preparation of material for bonding**

It is necessary to clean and degrease surface with suitable solvent (acetone). The best results is reached at mechanical abrade.

Adhesive is prepared for application with mixing component A and component B in recommended mass ratio 100:94 or volume ratio 100:00. This ratio has to be followed with accuracy 1% of component B to component A. For best results is recommend to use mixing equipment, when this is not available, mix well especially at the bottom and the vessel walls. The adhesive applies on one or both in advance prepared surfaces in optimal thickness 0,05-0,1 mm. Pot-life of mixture at 25°C is 30-40 min (100 g).

Curing

LH 232 is cures at room temperature. The system starts hardening after 60-90 mins, sufficient handling strength has after 4 hours. The maximum strength has after curing 48 hours at room temperature. It is possible to accelerate at higher temperature, e.g.:

60 min at 80°C
20 min at 120°C

Properties**A. Letoxit LH-232 (component A)**

Properties of uncured resin

Properties	Norm (method)	
Color	visual	brownish thixotropic paste
Specific mass	ISO 1675 (ČSN 656199)	1,49-1,54 g/cm ³
Epoxy equivalent	PN-5M-20	0,44-0,46 mol/100 g

B. Letoxit LH-232 (component B)

Properties of hardener

Properties	Norm (method)
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Color	visual	yellowish thixotropic paste
Specific mass	ISO 1675 (ČSN 656199)	1,40-1,45 g/cm ³

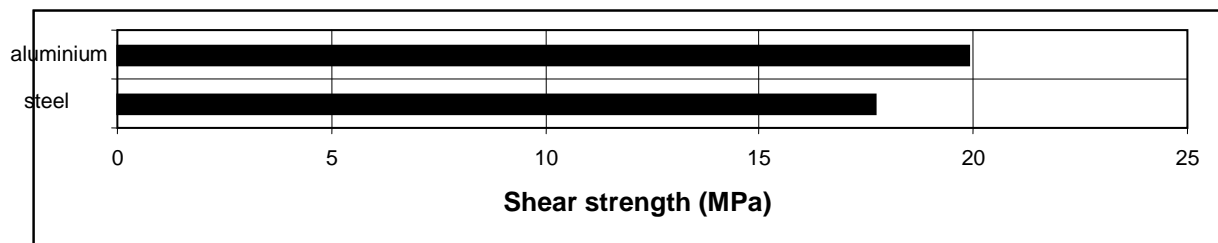
Properties of cured bonded joint

Specific mass	ISO 1675 (ČSN 656199)	1,45-1,50 g/cm ³
T _g (48 hours at room temperature)	DSC	55-60°C
T _g (max)	DSC	77°C

Mechanical properties

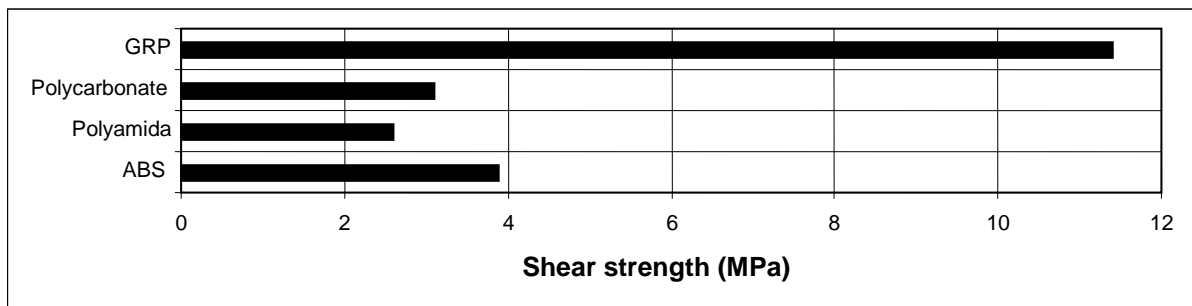
Shear strength on metals:

method: ČSN EN 1465
 curing: 24 hours at 23°C + 1 hour at 80 °C
 tested at 23°C



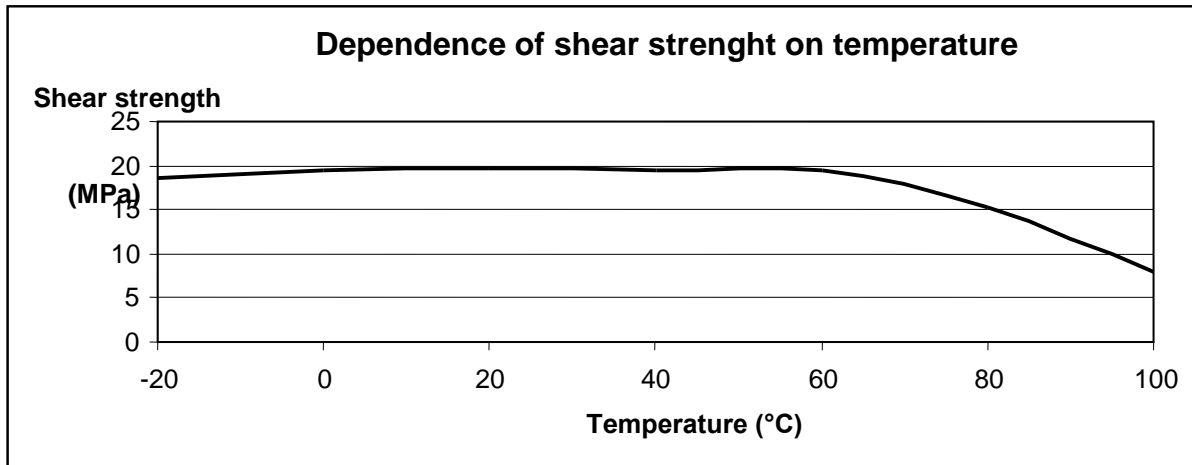
Shear strength on plastics:

curing: 24 hours at 23°C + 1 hour at 80 °C
 surface adjustment: degreased by iso-propanol and light grinded
 tested at 23°C



Shear strength at various temperature:

method: ČSN EN 1465
 curing: 24 hours at 23°C + 1 hour at 80 °C
 material: aluminium sheet 25 mm width and 1,6 mm thickness



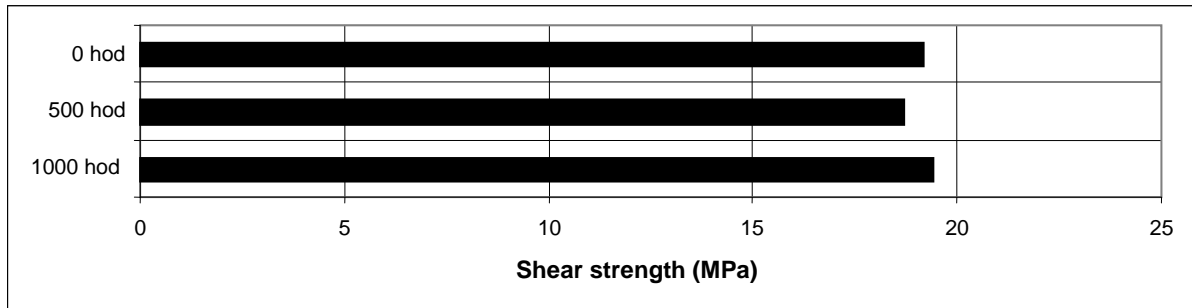
Peel strength:

4,2 N/mm

curing: 24 hours at 23°C + 1 hour at 80 °C
material: aluminium sheet 150x30x0,6 mm
tested at 23°C

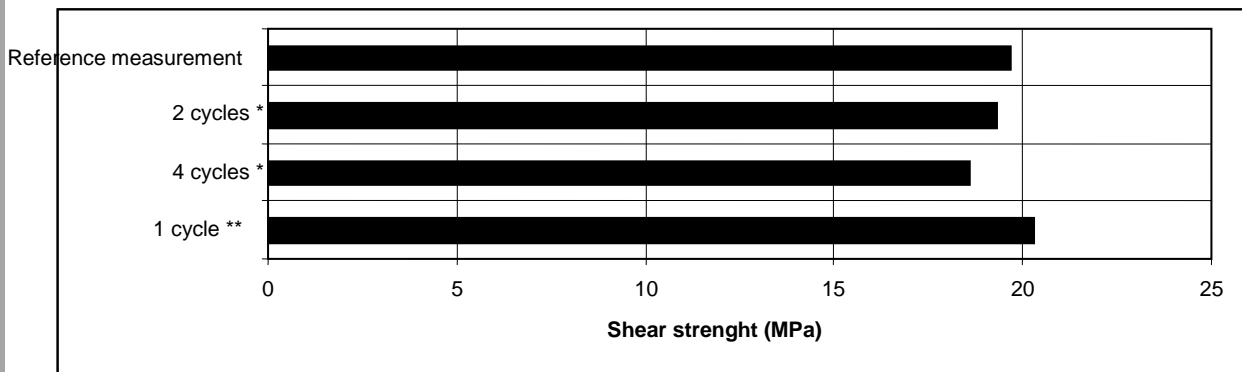
Shear strength after x hours at 160°C (temperatrue resistance)

method: ČSN EN 1465
curing: 24 hours at 23°C + 1 hour at 80 °C
material: aluminium sheet 25 mm width and 1,6 mm thickness
tested at 23°C



Shear strength after cycling tests:

method: ČSN EN 1465
curing: 24 hours at 23°C + 1 hour at 80 °C
material: aluminium sheet 25 mm width and 1,6 mm thickness
tested at 23°C
moisture: 100 %
measured with use of metal sheets packed in cotton cloth wet by water and PE foil



* +70°C/150 hours + -20°C/16 hours

** +70°C/22 days+ -30°C/16 days

Shear strength after cycling tests in salt water (salt water resistance):

method: ČSN EN 1465

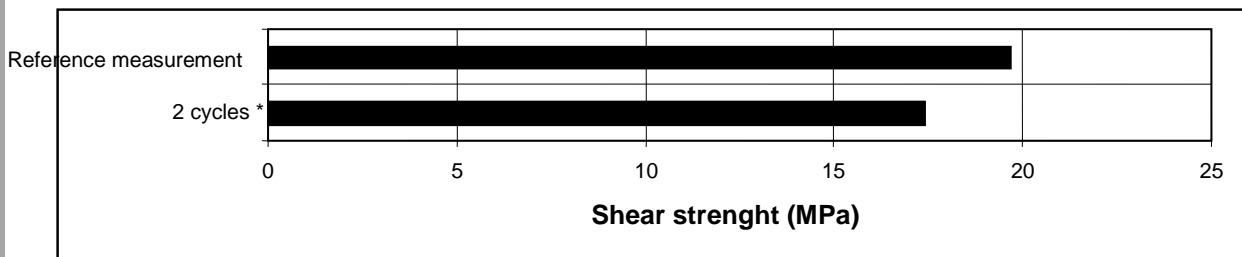
curing: 24 hours at 23°C + 1 hour at 80 °C

material: aluminium sheet 25 mm width and 1,6 mm thickness

tested at 23°C

moisture: 100 %

measured with use of metal sheets packed in cotton cloth wet in 5% solution and PE foil



* +70°C/150hod + -20°C/16hod

Dependence of shear strength on time at 23°C:

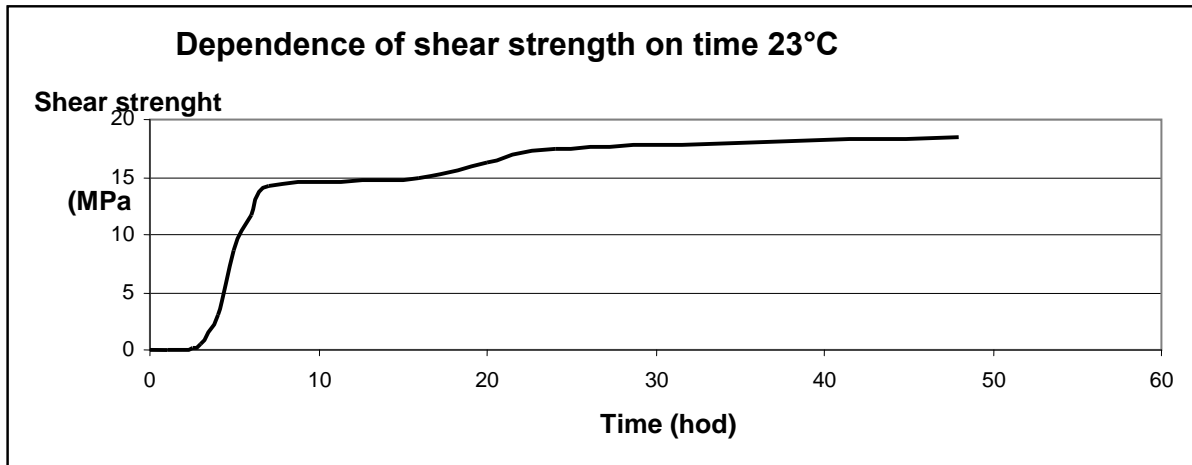
method: ČSN EN 1465

curing: at 23°C

material: aluminium sheet 25 mm width and 1,6 mm thickness

tested at 23°C

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**Other data**

Storage temperature: min. + 10°C, max. + 30°C

Storage time period: 6 months in closed container

Packing

50, 200, 400 ml cartridges

5, 20 kg plastics

200 kg barrel

Safety at work

See material safety data sheet.

Producer and Supplier

5M s.r.o.

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