

Description

The lamination compound without filling mediums, intended to be used for laminating of materials from glass, carbon or Kevlar fibres. The Letoxit PR 129 resin is produced on the basis of modified cykloalifatic epoxy resin.

Application

The lamination compound is intended to be used for production of components stressed in extreme conditions, e.g. aircraft and sailplane components, components for construction of models, construction of sporting boats, transport vehicle bodies, forms etc. It is characterised by high temperature resistance, weather effects resistance and UV-resistance. The lamination compound is suitable for all types of manufacturing, such as manual laminating, winding as well as when using pressure or vacuum.

Both compounds, resin and hardener, do not contain any hazardous materials described by RoHS Directive 2002/95/EC.

The optimum temperature for processing of the mixed compound lies in the temperature range of 20 – 25 °C. A higher processing temperature is also possible, but it shortens the pot life of the compound. The mixture ratio must be followed as precisely as possible. Higher or lower dosage of the hardener does not result in acceleration or deceleration of the reaction, but leads to imperfect hardening and thereby also deterioration of mechanical properties. The immixture must be carried out properly. Mix it so long until the compound has no uniform transparent colour and until there are no unstirred hardener “clouds”. Do not mix large quantities. Keep special attention to sides and bottom of the can.

Resin specification

	Norm	Resin Letoxit® PR 129
Density at 25°C (g/cm ³)	PN-5M-11	1,1
Viscosity at 25°C (mPa.s)	PN-5M-01	1000-2000
Epoxy equivalent	PN-5M-20	0,45-0,51
Color	DIN ISO 4630	light yellow

Hardeners specification

	Norm	Hardener Letoxit® EM 100
Density at 25°C (g/cm ³)	PN-5M-11	0,94
Viscosity at 25°C (mPa.s)	PN-5M-01	100 - 140
Hydrogen equivalent	-	61
Amine value (mg KOH/g)	PN-5M-06	450-480
Color	-	light blue

Processing details

	Letoxit® PR 129 + Letoxit® EM 100
Processing temperature	20 – 30 °C
Viscosity of mixture at 25°C	900-1800
Storage at 15 – 25 °C	min. 6 months in unopened packing
Curing	depend on glass transition temperature (Tg)
Post curing	depend on glass transition temperature (Tg)

Mixture ratio, pot-life

	Resin Letoxit® PR 129 : hardener Letoxit® EM 100
Parts by weight	100 : 29 ± 1
Parts by volume	100 : 32 ± 1
Pot-life pro 200 g při 25°C	min. 180 min

Mechanical properties of unreinforced resin

Curing: 24 h 20-25°C + 15 h 50-55°C	Norm	Resin Letoxit PR 129 + hardener Letoxit EM 100
Density at 20 °C (g/cm³)	PN-5M-11	1,09
Flexural strength (MPa)	CSN EN ISO 178	121
Modulus of elasticity (GPa)	CSN EN ISO 178	2,8
Impact strength (kJ/mm²)	ČSN EN ISO 179	37
Hardness (°Bc)	PN-5M-13	15

Glass transition temperature (Tg)

Curing at 20°C for 24 hour with post curing:

Poscuring	Letoxit® PR 129 Letoxit® EM 100
2h - 60°C 2h - 100°C	89°C
2h - 60°C 2h - 100°C 2h - 130°C	105°C

Mechanical properties of reinforced resinExample: GRC – with glass fibers toughened composite: 16 coatings of fabric Vertex 300 g/cm³, total thickness 4 mm

APPLICATION METHOD

Letoxit® PR 129

Letoxit® EM 100

Version: 11/2011

Curing: 24 h at 20-25°C + 5 h at 60°C + 2 h at 100°C	Norm	Resin Letoxit PR 129 + hardener Letoxit EM 100
Flexural strength (MPa)	ČSN EN ISO 178	638
Modulus of elasticity (GPa)	ČSN EN ISO 178	20,5
Impact strength (kJ/mm²) (Nmm/mm²)	ČSN EN ISO 179	263
Hardness (°C)	PN-5M-13	54

Packing

Resin and hardener comes in PE-can of 5, 10 and 20kg and in 200 kg tin barrel.