APPLICATION METHOD

Letoxit® PR 108
Letoxit® EM 309

Version: 11/2011

Description

The lamination compound without filling mediums, intended to be used for laminating of materials from glass, carbon or Kevlar fibres. The Letoxit PR 108 resin is produced on the basis of modified epoxy resin of bisphenol A type. When storing Letoxit PR 108 for longer period of time or when storing it at temperatures below + 15°C, as the case may be, it may crystallize (milky coloration of the resin, accompanied by increased viscosity). By heating the Letoxit PR 108 resin approximately to 40°C you will bring it to its original state without any changes to its quality and characteristics. The resin is considered to be physiologically well compatible. Due to the resin's low viscosity and thereby also lower interfacial tension, it shows good wetting power of lamination textiles and materials when combined in mixture with the Letoxit EM 309 hardening agent.

Application

The lamination compound is intended to be used for production of components stressed n medium-hard conditions, e.g. components for construction of models, construction of sporting boats, transport vehicle bodies, forms etc. Thanks to its good electric properties, the compound can be used in electrotechnical industry. The lamination compound is suitable for all types of manufacturing, such as manual laminating, winding as well as when using pressure or vacuum.
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. It can be said that an increase by 10°C shortens the pot life approximately to one half. 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 black colour and until there are no unstirred hardener "clouds". Pay special attention to walls and bottom of the vessel

Resin specification

	Norm	Resin Letoxit® PR 108
Density at 20°C (g/cm^3)	PN-5M-11	1,16
Viscosity at 25°C (mPa.s)	PN-5M-01	8000-14000
Epoxy equivalent	PN-5M-20	0,52-0,56
Colour/Gardner	-	max. 2

Hardener specification

	Norm	Hardener Letoxit® EM 309
Density at 20°C (g/cm^3)	PN-5M-11	1,19
Viscosity at 25°C (mPa.s)	PN-5M-01	70-110
Hydrogen equivalent	-	148
Colour	-	black

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Processing details

	Letoxit® PR 108 + Letoxit® EM 309
Processing temperature	18 – 30 °C
Viscosity of mixture at 25°C	1500-1800
Storage at 15 – 25 °C	minimally 6 months in original closed container
Curing	2 hours at 80 °C and 5 hours at 135°C
Post curing	18 – 30 °C

Mixture ratio, pot-life

	resin Letoxit® PR 108 : hardener Letoxit® EM 309
Mass ratio	-
Volume ratio	100 : 100
Potlife for 200 g mixture at 25°C	min. 12 hours

Mechanical properties of unreinforced resin

Curing: 3,5 h at 60 °C + 2 h at 100 °C	Norm	Resin Letoxit® PR 108 + hardener Letoxit® EM 309
Flexural strength (MPa)	ČSN EN ISO 178	125-135
Modulus of elasticity (GPa)	ČSN EN ISO 178	2,7-3,2
Tensile strength (MPa)	DIN 53 455	75-80

Glass transition temperature (Tg)

Curing	Norm	Letoxit® PR 108 Letoxit® EM 305
2 hour, 80ºC 5 hour, 135ºC	PN-5M-03	131ºC

Packing

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

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