APPLICATION METHOD

Letoxit® PR 164
Letoxit® EM 285, 286

Version: 11/2011

Description

The lamination systems without filling mediums, intended to be used for laminating of materials from glass, carbon, or Kevlar fibres. Letoxit PR 164 resin is produced on the basis of modified epoxy (dian) resin. The modificating agent decreases viscosity and prevent from resin crysltalization by storaging at lower temperature up to +5°C.
When storing Letoxit PRX 164 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 PRX 164 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 EMX 285 (286) hardening agent.

Application

The lamination compound is intended to be used for production of components stressed in middle conditions, e.g. construction of models, construction of sporting boats, transport vehicle bodies, forms, wounded compressive vessels, etc. Thanks to accomplished electrical characteristics is possible use this system in electrical 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. 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 color and until there are no unstirred hardener "clouds". Pay attention especially to walls and bottoms of vessel.

Resin specification

	Norm	Resin Letoxit® PR 164
Density at 25°C (g/cm^3)	PN-5M-11	1,16
Viscosity at 25°C (mPa.s)	PN-5M-01	500-900
Epoxy equivalent	PN-5M-20	0,52-0,56
Color/Gardner	DIN ISO 4630	max. 2

Hardeners specification

	Norm	Hardener Letoxit® EM 285	Hardener Letoxit® EM 286
Density at 25°C (g/cm^3)	PN-5M-11	1,19	1,19
Viscosity at 25°C (mPa.s)	PN-5M-01	70-110	70-110
Hydrogen equivalent	-	148	148

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Color	-	tawny-russet	tawny-russet

Processing details

	Letoxit® PR 164 + Letoxit® EM 285, 286
Processing temperature	18 – 30 °C
Viscosity of mixture at 25°C	250-400
Storage at 15 – 25 °C	minimally 6 months in original clossed vessels
Hardening	80°C – 1 hour. + 140°C – 4 hours.

Mixture ratio, pot-life

	Resin Letoxit® PR 164 : hardener Letoxit® EM 285, 286
Parts by weight	100 : 76
Parts by volume	100 : 60
Pot-life for 200 g mixture	Hardener EMX 285 at 25°C min. 8 hours. Hardener EMX 286 at 20°C min. 8 hours.

Mechanical properties of unreinforced resin

Hardening: 3,5 h at 60°C + 2 h at 100°C	Norm	Resin Letoxit PR 164 + hardener Letoxit EM 285, 286
Flexural strength (MPa)	CSN EN ISO 178	120-125
Modulus of elasticity (GPa)	CSN EN ISO 178	2,2-2,5
Compressive strength (MPa)	ČSN EN ISO 572	50-55

Packing

System comes in tin cans and 5, 10, 20kg PE jerrycans and 200kg drums.

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