

Description

The lamination compound without filling mediums, intended to be used for laminating of materials from glass, carbon or Kevlar fibres. The Letoxit PR 102 resin is produced on the basis of modified epoxy resin of bisphenol A type. When storing Letoxit PR 102 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 102 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 100 hardening agent.

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 features an extra high heat resistance. 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. The mixture ratio must be followed as precisely as possible. A higher processing temperature is also possible, but it shortens the pot life of the compound. 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". Pay special attention to walls and bottom of the vessel.

Resin specification

	Norm	Resin Letoxit® PR 102
Density at 25°C (g/cm ³)	PN-5M-11	1,15
Viscosity at 25°C (mPa.s)	PN-5M-01	300 - 600
Epoxy equivalent	PN-5M-20	0,6
Colour/Gardner	DIN ISO 4630	max. 6

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	-	63



APPLICATION METHOD

Letoxit® PR 102
Letoxit® EM 100

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Amine value (mg KOH/g)	PN-5M-06	450-480
Colour	-	transparent

Processing details

	Letoxit® PR 102 + Letoxit® EM 100
Processing temperature	20 – 30 °C
Viscosity of mixture at 25°C	200 - 500
Storage at 15 – 25 °C	minimally 6 months in their carefully sealed original containers
Curing	24 hours at temperature 23 °C
Post curing	15 hours at 50-60°C up to 15 minutes at 150°C

Mixture ratio, pot-life

	Resin Letoxit® PR 102 : hardener Letoxit® EM 100
Parts by weight	100 : 37 ± 1
Parts by volume	100 : 46 ± 1
Pot-life pro 200 g při 25°C	160-180 min

Mechanical properties of unreinforced resin

Curing: 24 h 20-25°C + 15 h 50-55°C	Norm	Resin Letoxit PR 102 + hardener Letoxit EM 100
Density at 25 °C (g/cm3)	PN-5M-11	1,13
Flexural strength (MPa)	CSN EN ISO 178	125
Modulus of elasticity (GPa)	CSN EN ISO 178	3,0-3,3
Tensile strength (MPa)	DIN 53 455	50-60

Glass transition temperature (Tg)

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

Poscuring	Norm	Letoxit® PR 102 Letoxit® EM 100
10h 40°C	PN-5M-03	52°C
10h 50°C		81°C
10h 80°C		95°C
6 h 50 °C 6 h 100°C		119°C

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Letoxit® PR 102
Letoxit® EM 100

6 h, 50°C 6 h, 100°C 6 h, 130°C		140°C
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Packing

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

