

## 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. Due to excellent weather effects resistance and UV-resistance is suitable for outdoor usage.

## 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. 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 colour and until there are no unstirred hardener “clouds”. Do not mix large quantities. Keep special attention to sides and bottom of the can. The exothermic curing reaction is generating high volume of heat energy, which can cause overheated of mixture over 200°C, potentially to “burn” it, i.e. to it’s devaluation.

## Resin specification

	Norm	Resin Letoxit® PR 129
Density at 25°C (g/cm <sup>3</sup> )	PN-5M-11	1,1
Viscosity at 25°C (mPa.s)	PN-5M-01	1000-2000
Epoxy equivalent	PN-5M-20	0,43-0,49
Color	DIN ISO 4630	light yellow

## Hardeners specification

	Norm	Hardener Letoxit® EM 420
Density at 25°C (g/cm <sup>3</sup> )	PN-5M-11	0,98
Viscosity at 25°C (mPa.s)	PN-5M-01	130-170
Hydrogen equivalent	-	67
Amine value (mg KOH/g)	PN-5M-06	min. 450
Colour	-	light blue

# APPLICATION METHOD

Letoxit® PR 129  
Letoxit® EM 420

Version: 11/2011

## Processing details

	Letoxit® PR 129 + Letoxit® EM 420
Processing temperature	20 – 30 °C
Viscosity of mixture at 25°C	800-600
Storage at 15 – 25 °C	min. 6 months in unopened packing
Hardening	depend on glass transition temperature (Tg)

## Mixture ratio, pot-life

	Resin Letoxit® PR 129 : hardener Letoxit® EM 420
Parts by weight	100 : 32 ± 1
Parts by volume	100 : 31 ± 1
Pot-life pro 200 g při 25°C	40-50 min

## Mechanical properties of unreinforced resin

Hardening: 3,5 h at 60 °C + 2 h at 100 °C	Norm	Resin Letoxit PR 129 + hardener Letoxit EM 420
Density at 25 °C (g/cm <sup>3</sup> )	PN-5M-11	1,1
Flexural strength (MPa)	CSN EN ISO 178	120
Modulus of elasticity (GPa)	CSN EN ISO 178	3,3
Impact strength (kJ/mm <sup>2</sup> )	ČSN EN ISO 179	36
Hardness (°Bc)	PN-5M-13	17

## Glass transition temperature (Tg)

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

Poscuring	Letoxit® PR 129 Letoxit® EM 420
24 h - 22°C 2 h - 60°C 1 h - 100°C	70°C

## Mechanical properties of reinforced resin

Example: GRC – with glass fibers toughened composite: 16 coatings of fabric Vertex 300 g/cm<sup>3</sup>, total thickness 4 mm



Na Záhonech 1177  
686 04 KUNOVICE  
Czech Republic

tel: +420 572 433 711  
fax: +420 572 433 700  
email: 5M@5M.cz

www.5M.cz  
LETOXIT® is registered trademark of 5M s.r.o.

# APPLICATION METHOD

Letoxit® PR 129

Letoxit® EM 420

Version: 11/2011

	Norm	Resin Letoxit PR 129 + hardener Letoxit EM 420
<b>Flexural strength (MPa)</b>	ČSN EN ISO 178	455
<b>Modulus of elasticity (GPa)</b>	ČSN EN ISO 178	19,6
<b>Impact strength (kJ/mm<sup>2</sup>) (Nmm/mm<sup>2</sup>)</b>	ČSN EN ISO 179	229
<b>Hardness (°C)</b>	PN-5M-13	42

## Packing

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