

Biresin® RG51 Fibre

Low pressure RIM-system, high impact resistant, fibre filled

Areas of Application

- Manufacture of shock-resistant mouldings

Product Benefits

- Simulation of PE / PP with very high impact resistance
- Fast curing with good flowability
- Short demoulding time
- Very abrasion resistant surface

Description

- Basis Two-component-PUR-system
- Resin **Biresin® RG51 Fibre**, polyol, black, filled with glass fibres
- Hardener **Biresin® G53**, MDI-based isocyanate, amber, unfilled

Processing Data		Resin	Hardener
Individual components		Biresin® RG51 Fibre	Biresin® G53
Viscosity, 25°C	mPas	approx. 2,600	approx. 175
Density	g/cm³	1.25	1.23
Mixing ratio resin to hardener	in parts by weight	100	40
Mixing ratio resin to hardener	in parts by volume	100	40
		Mixture	
Potlife, RT	s	45 - 50	
Demoulding time, plastic mould, RT	min	10 - 15	
Curing time, RT	d	approx. 3	

Physical Data (approx.-values)

Biresin® RG51 Fibre resin			with hardener	Biresin® G53
Shore hardness	ISO 868	-		D 75
E-Modulus	ISO 178	MPa		1.250
Flexural strength	ISO 178	MPa		45
Tensile strength	ISO 527	MPa		30
Elongation at break	ISO 527	%		20
Impact resistance	ISO 34	N/mm		90
Notched bar impact resistance	ISO 179	kJ/m²		15
Heat distortion temperature	ISO 75 B	°C		105
Linear shrinkage (500 mm x 40 mm x 10 mm)	internal	%		0.24

values at 60°C tool temperature

Packaging

Individual components	Biresin® RG51 Fibre resin	20 kg net
	Biresin® G53 hardener	200 kg; 20 kg; 10 kg net

Processing

- The resin component must be stirred thoroughly before use.
- The resin component must be preheated up to at least 30°C. The mould temperature should be at least 30°C and can be up to 60°C. This is necessary to avoid a brittleness phase at short demoulding times.
- For processing a two-component dosage mixing machine is necessary which conforms to reactivity of resin and volume of casting parts. A static-dynamic mixing unit is recommended.
- Machine vessel for resin component (part A - polyol) must have a mixing unit and heating.
- Machine vessel for hardener component (Part B - isocyanate must be moisture tight, e. g. by installation of a silicagel filter.
- Prior to casting, ensure moulds are thoroughly released. If the application of silicone free release agents is necessary, Sika® Trennmittel 810 and 815 Quick or Sika® Trennwachs 818 (for more information see Technical Data Sheet) are recommended.
- Improved thermal stability of the demoulded parts can be obtained by thermal post curing (e. g. 4 h / 80°C, take slightly increased shrinkage values into account).
- When a mould temperature of 60°C is applied a thermal post curing of the parts is not necessary.
- For heavy parts and parts with complicated geometry a support while post curing is recommended.

Storage

- Minimum shelf life of Biresin® RG 51 Fibre resin is 9 month and of Biresin® G53 hardener is 12 month under room conditions (18 - 25°C), when stored in original un-opened containers.
- After prolonged storage at low temperature, crystallisation of components may occur. This is easily removed by warming up for a sufficient time to a maximum of 70°C. Allow to cool to room temperature before use.
- Containers must be closed tightly immediately after use to prevent moisture ingress. The residual material needs to be used up as soon as possible.

Health and Safety Information

For information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

Disposal considerations

Product Recommendations: Must be disposed of in a special waste disposal unit in accordance with the corresponding regulations.

Packaging Recommendations: Completely emptied packagings can be given for recycling. Packaging that cannot be cleaned should be disposed of as product waste.

Value Bases

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Legal Notice

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