

Biresin® RG53 FR Low pressure RIM-system, flame retardant

Areas of Application

- Manufacture of housings and coverings
- Manufacture of thin walled mouldings with complexe structure
- Manufacture of flame retardant parts

Product Benefits

- Flame retardant V-0 according UL 94 at 3 mm thickness
- Classification of flammability according to E DIN 5510-2 S3, ST2 and SR2 at 10 mm thickness
- Flammability according to appendix IV EU Directive R 95/28/EC at 3 mm thickness siehe Seite 3 für Details
- Fast curing with good flowability
- Short demoulding time
- Simulation of ABS with good impact resistance

Description

- Basis Two component PUR system
- Component A **Biresin® RG53 FR**, polyol, beige and black
- Component B **Biresin® U5**, MDI-based isocyanate, brown

Processing Data		Component A	Component B
Individual components		Biresin® RG53 FR	Biresin® U5
Viscosity, 25°C	mPa.s	~ 3,500	~ 110
Density	g/cm³	1.20	1.23
Mixing ratio A : B	in parts by weight	100	54
Mixing ratio A : B	in parts by volume	100	52
		Mixture	
Potlife, RT	s	~ 75	
Demoulding time, RT, dependent on thickness	min	> 10	
Curing time, RT	d	~ 1	

Physical Data (approx. values)

Biresin® RG53 FR (A)	with component B	Biresin® U5
Density	ISO 1183 g/cm³	1.27
Shore hardness	ISO 868 -	D 84
E-Modulus	ISO 178 MPa	2,200
Flexural strength	ISO 178 MPa	70
Tensile strength	ISO 527 MPa	45
Elongation at break	ISO 527 %	5
Impact resistance	ISO 179 kJ/m²	35
Heat distortion temperature	ISO 75B °C	110*

* values after post curing: 4 h / 80°C + 2 h / 120°C

** post curing can increase shrinkage

Packaging

Individual components	Biresin® RG53 FR (A) beige and black Biresin® U5 (B)	200 kg; 25 kg net 250 kg; 20 kg; 5 kg net
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Processing

- The material and processing temperature must be from 18 to 25°C, if necessary to 40°C; the mould temperature at least 20°C up to max. 60°C.
- Component A must be stirred thoroughly before use.
- For processing a two-component dosage mixing machine is necessary which conforms to reactivity of resin system and volume of casting parts.
- Machine vessel for component A must have a mixing unit and heating.
- Machine vessel for component B must be moisture tight, e. g. by installation of a silicagel filter.
- The resin and hardener components are to be mixed thoroughly and poured immediately into previously released moulds (e.g. with Sika® Liquid Wax-815 resp. Sika® Pasty Wax-818; for more information see product data sheet).
- Improved thermal stability of the demoulded mouldings can be obtained by post-curing.

Storage

- Minimum shelf life 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 on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) 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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Results of Technical Fire Safety Testing of Biresin RG53 FR

- **Testing according to DIN 54837 (12/2009)** – Testing of materials, small parts, components for rail vehicles, determination of burning behaviour using a gas burner
Assessment according to DIN 5510, Part 2 (05/2009) on 4 mm samples
Flammability Class: S3
Smoke Development Class SR2
Capacity to form drops: Class ST2
- **Testing according to DIN 75200, ISO 3795**
Determination of the burning behaviour of materials of vehicle interiors with assessment of the maximum burning speed according to FMVSS 302:
Maximum value of the burning rate: 0 mm/min (2.8 mm sample thickness)
- **Testing according to Appendix IV EU Regulation 95/28/EG :**
Maximum value of the burning rate: 0 mm/min (3 mm sample thickness)
- **Burning behaviour according to UL94 (V):** Rated V-0 (3mm sample thickness)

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