Tooling & Composites

Product Data Sheet
Version 02 / 2016

Biresin® RG53

Low pressure RIM-system, impact resistant

Areas of Application

- Manufacture of housings and coverings
- Manufacture of very impact resistant technical parts
- Manufacture of thinwalled mouldings with complexe structure

Product Benefits

- Fast curing with good flowability
- Short demoulding time
- Cured parts can be machined
- With **Biresin® U5** (B) for higher temperatur resistance
- With **Biresin® G53** (B) for high mechanical properties
- Simulation of PE / PP with good impact resistance

Description

- Basis — Two component PUR system
- Component A — **Biresin® RG53**, polyol, beige, grey and black
- Component B — **Biresin® U5**, MDI-based isocyanate, brown
- Component B — **Biresin® G53**, MDI-based isocyanate, amber

Processing Data		Component A	Component B	
Individual components		**Biresin® RG53**	**Biresin® U5**	**Biresin® G53**
Viscosity, 25°C	mPa.s	~ 2,200	~ 110	~ 175
Density	g/cm³	1.03	1.23	1.23
Mixing ratio A : B	in parts by weight	100	75	80
Mixing ratio A : B	in parts by volume	100	62	66
		Mixtures		
Potlife, RT	s	~ 60		
Demoulding time, RT	min	> 10		
Curing time, RT	d	~ 1		

Physical Data (approx. values)				
Biresin® RG53 (A)	with component B		**Biresin® U5**	**Biresin® G53**
Density	ISO 1183	g/cm³	1.2	1.2
Shore hardness	ISO 868	-	D 78	D 80
E-Modulus	ISO 178	MPa	1,300	1,400
Flexural strength	ISO 178	MPa	54	58
Tensile strength	ISO 527	MPa	38	38
Elongation at break	ISO 527	%	20	25
Impact resistance	ISO 179	kJ/m²	95 / 50 *	90 / 60*
Heat distortion temperature	ISO 75B	°C	63 / 120*	60 / 110*

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

Packaging

Individual components	**Biresin® RG53** (A) beige, grey and black	20 kg net; others on request
	Biresin® G53 (B)	1200 kg; 200 kg; 20 kg; 10 kg net
	Biresin® U5 (B)	250 kg; 20 kg; 5 kg net

Processing

- The material and processing temperature must be 18 - 25°C, mould temperature at least 20°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

Further information available at:

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