Technical Data Sheet
Version 01 / 2008

SCABRO
Ideeën Krijgen Vorm

Tooling & Composites

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

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

Description

- Basis: Two-component-PUR-system
- Resin: **Biresin® RG53**, polyol, beige and black, unfilled
- Hardener: **Biresin® U5**, MDI-based isocyanate, brown, unfilled
- Hardener: **Biresin® G53**, MDI-based isocyanate, amber, unfilled

Processing Data		Resin	Hardener	
Individual components		**Biresin® RG53**	**Biresin® U5**	**Biresin® G53**
Viscosity, 25°C	mPas	approx. 2,200	approx. 110	aprox. 175
Density	g/cm³	1.03	1.23	1.23
Mixing ratio resin to hardener	in parts by weight	100	75	80
Mixing ratio resin to hardener	in parts by volume	100	62	66
		Mixtures		
Potlife, RT	s	approx. 60		
Demoulding time, RT	min	> 10		
Curing time, RT	d	approx. 1		

Physical Data (approx.-values)				
Biresin® RG53 resin		with hardener	**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** resin	200 kg (only black); 20 kg net
	Biresin® G53 hardener	200 kg; 20 kg; 10 kg net
	Biresin® U5 hardener	250 kg; 17 kg; 4.25 kg net

Sika®

Processing

- The material and processing temperature must be 18 - 25°C, mould temperature at least 20°C.
- The resin component must be stirred thoroughly before use.
- For processing a two-component dosage mixing machine is necessary which conforms to reactivity of resin and volume of casting parts.
- 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 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 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

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

SCABRO
Ideeën Krijgen Vorm

Distributeur voor Nederland, Belgie en Luxemburg: Scabro Composites
Vliegveld Valkenburg Wassenaarseweg 75-3265 NL - 2223 LA Katwijk The Netherlands
Tel: +31 (0) 71 4017246 Fax: +31 (0) 84 7402572 Email: info@scabro.com www.scabro.com