Technical Data Sheet
Version 01 / 2008

SCABRO
Ideeën Krijgen Vorm

Tooling & Composites

Biresin® RG51 HS

Low pressure RIM-system, high impact resistant

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 HS**, polyol, yellowish-translucent and black, unfilled
- Hardener: **Biresin® G53**, MDI-based isocyanate, amber, unfilled

Processing Data		Resin	Hardener
Individual components		**Biresin® RG51 HS**	**Biresin® G53**
Viscosity, 25°C	mPas	approx. 1,300	approx. 175
Density	g/cm³	1.05	1.23
Mixing ratio resin to hardener	in parts by weight	100	50
Mixing ratio resin to hardener	in parts by volume	100	43
		Mixture	
Potlife, RT	s	60	
Demoulding time, plastic mould, RT	min	10 - 20	
Curing time, RT	d	approx. 3	

Physical Data (approx.-values)			
Biresin® RG51 HS resin		with hardener	**Biresin® G53**
Density	ISO 1183	g/cm³	1.15
Shore hardness	ISO 868	-	D 65
E-Modulus	ISO 178	MPa	450
Flexural strength	ISO 178	MPa	20
Tensile strength	ISO 527	MPa	25
Elongation at break	ISO 527	%	150
Tear resistance	ISO 34	N/mm	120
Notched bar impact resistance	ISO 179	kJ/m²	75
Heat distortion temperature	ISO 75 B	°C	65
Abrasion resistance	ISO 4649 A	mm³	160

Packaging

Individual components	**Biresin® RG51 HS** resin translucent	20 kg net
	Biresin® RG51 HS resin black	200 kg; 20 kg net
	Biresin® G53 hardener	200 kg; 20 kg; 10 kg net

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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. 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 mouldings can be obtained by thermal post curing (e. g. 4 h / 80°C, take slightly increased shrinkage values into account).
- For heavy parts and parts with complicated geometry a support while post curing is recommended.

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

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