

## Biresin® RG51 HS

### Low pressure RIM-system, high impact resistant

#### Areas of Application

- Manufacture of shock-resistant mouldings

#### Product Benefits

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

#### Description

- Basis Two component PUR system
- Component A **Biresin® RG51 HS**, polyol, yellowish-translucent and black
- Component B **Biresin® G53**, MDI-based isocyanate, amber

Processing Data		Component A	Component B
Individual components		Biresin® RG51 HS	Biresin® G53
Viscosity, 25°C	mPa.s	~ 1,300	~ 175
Density	g/cm³	1.05	1.23
Mixing ratio A : B	in parts by weight	100	50
Mixing ratio A : B	in parts by volume	100	43
		Mixture	
Potlife, RT	s	60	
Demoulding time, plastic mould, RT	min	10 - 20	
Curing time, RT	d	~ 3	

#### Physical Data (approx. values)

Biresin® RG51 HS (A)		with component B	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	<b>Biresin® RG51 HS (A)</b> translucent	20 kg net
	<b>Biresin® RG51 HS (A)</b> black	20 kg net
	<b>Biresin® G53 (B)</b>	200 kg; 20 kg; 10 kg net

## Processing

- Component A must be stirred thoroughly before use.
- Component A 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 system and volume of casting parts. A static-dynamic mixing unit is recommended.
- 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 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 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

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.

Further information available at:

Sika Deutschland GmbH

Subsidiary Bad Urach

Stuttgarter Str. 139

D - 72574 Bad Urach

Germany

Tel: +49 (0) 7125 940 492

Fax: +49 (0) 7125 940 401

Email: [tooling@de.sika.com](mailto:tooling@de.sika.com)

Internet: [www.sika.com](http://www.sika.com)

