

## PRODUCT DATA SHEET

# SikaBiresin<sup>®</sup> RG51 HS (Biresin<sup>®</sup> RG51 HS)

LOW PRESSURE RIM SYSTEM WITH VERY HIGH IMPACT RESISTANCE –  
SIMULATION OF PE / PP

## APPLICATIONS

- Manufacture of shock resistant mouldings

## MAIN PROPERTIES

- 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 polyurethane system
Component A	<b>SikaBiresin<sup>®</sup> RG51 HS</b> , polyol, yellowish-transparent and black
Component B	<b>SikaBiresin<sup>®</sup> RG530</b> , MDI-based isocyanate, amber

## PHYSICAL PROPERTIES

		Polyol (A)	Isocyanate (B)
Components		<b>SikaBiresin<sup>®</sup> RG51 HS</b>	<b>SikaBiresin<sup>®</sup> RG530</b>
Viscosity, 25 °C	mPa.s	~ 1,300	~ 175
Density	g/cm <sup>3</sup>	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	
Colour		yellowish-transparent / black	
Pot life, room temperature	s	~ 60	
Demoulding time, plastic mould, room temperature	min	~ 10 – 20	
Curing time, room temperature	d	~ 3	

## MECHANICAL PROPERTIES

approx. values

Density	ISO 1183	g/cm <sup>3</sup>	1.15
Shore hardness	ISO 868	-	D 65
Flexural modulus	ISO 178	MPa	450
Flexural strength	ISO 178	MPa	20
Tensile strength	ISO 527	MPa	25
Tear resistance	ISO 34	N/mm	120
Elongation at break	ISO 527	%	150
Notched impact resistance	ISO 179	kJ/m <sup>2</sup>	75
Abrasion resistance	ISO 4649	mm <sup>3</sup>	160

## THERMAL AND SPECIFIC PROPERTIES

approx. values

Heat deflection temperature	ISO 75B	°C	65
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## PACKAGING UNITS

- Polyol (A), **SikaBiresin® RG51 HS**  
translucent or black 20 kg
- Isocyanate (B), **SikaBiresin® RG530**  
0.975 kg / 10 kg / 20 kg / 200 kg /  
1,200 kg

## PROCESSING DATA

- The material and processing temperature for component A is 30 °C. The mould temperature must be at least 30 – 60 °C. This is necessary to avoid a brittle phase at short demoulding times.
- Component A must be stirred thoroughly before use.
- For processing, a suitable two-component meter mix and dispense machine should be used.
- The machine should be conform to the reactivity of the material and the volume of the casted parts. A static-dynamic or dynamic mixing unit is recommended.
- The machine vessel for component A must have a mixing unit. Furthermore, a heating unit for the machine vessels of both components is recommended.
- Machine vessel for both components must be moisture tight, e.g. by installation of a silicagel filter.
- Recommended release agents are Sika® Liquid Wax-852 or Sika® Liquid Spray-872. For more information, see Product Data Sheets of the release agents.
- Pay attention to dry conditions and dry mould surfaces (moisture content of wood < 7 %) while processing.
- Increased mould temperatures are decreasing the demoulding time.
- Further post curing of the demoulded part can improve the final mechanical properties (recommendation for post curing: 4 h / 80 °C; take slightly increased shrinkage values into account).
- When a mould temperature of 60 °C is used, a thermal post curing of the parts is not necessary.
- Depending on the geometry and weight of the part, it is recommended to use a conformer while post curing.
- Before overpainting, the parts have to be grinded or sandblasted. A polyurethane paint is recommended.

PRODUCT DATA SHEET

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Sika Advanced Resins

2

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## STORAGE CONDITIONS

Shelf life	<ul style="list-style-type: none"><li>■ Polyol (A), <b>SikaBiresin® RG51 HS</b> 12 months</li><li>■ Isocyanate (B), <b>SikaBiresin® RG530</b> 12 months</li></ul>
Storage temperature	<ul style="list-style-type: none"><li>■ Polyol (A), <b>SikaBiresin® RG51 HS</b> 18 – 25 °C</li><li>■ Isocyanate (B), <b>SikaBiresin® RG530</b> 18 – 25 °C</li></ul>
Crystallization	<ul style="list-style-type: none"><li>■ After prolonged storage at low temperature, crystallization of B component may occur.</li><li>■ This is easily removed by warming up for a sufficient time to a maximum of 70 °C.</li><li>■ Allow to cool to requested processing temperature before use.</li></ul>
Opened packagings	<ul style="list-style-type: none"><li>■ Containers must be closed tightly immediately after use to prevent moisture ingress.</li><li>■ The residual material needs to be used up as soon as possible.</li></ul>

### FURTHER INFORMATION

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Advanced Resins. Copies of the following publications are available on request: Safety Data Sheets

### BASIS OF PRODUCT DATA

All technical data stated in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

### HEALTH AND SAFETY INFORMATION

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

### LEGAL NOTICE

The information, and, in particular, the recommendations relating to the application and enduse 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.

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