

PRODUCT DATA SHEET

SikaBiresin® RG51 HS

Low pressure RIM system with very high impact resistance – simulation of PE / PP

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties	Component A SikaBiresin® RG51 HS	Component B SikaBiresin® RG530
Chemical base	Polyol	MDI-based isocyanate
Color	Yellowish-transparent, black	Amber
	mixed	Yellowish-transparent, black
Density	1.05 kg/l	1.23 kg/l
	cured	1.15 kg/l
Mixing ratio	by weight by volume	100 : 50 100 : 43
Viscosity (CQP029-4)	1300 mPa·s	175 mPa·s
Pot life (CQP021-4)	at 23 °C	60 seconds
Demolding time		20 minutes ^A
Curing time	at 23 °C	3 days
Shore D hardness (CQP023-1 / ISO 868)		65 ^{A, B}
Tensile strength (CQP036-2 / ISO 527)		25 MPa ^{A, B}
Tensile elongation (CQP036-2 / ISO 527)		150 % ^{A, B}
Tear strength (CQP045-1 / ISO 34)		120 N/mm ^{A, B}
Flexural strength (CQP027-2 / ISO 178)		20 MPa ^{A, B}
Flexural modulus (CQP027-2 / ISO 178)		450 MPa ^{A, B}
Impact resistance (CQP038-2 / ISO 179)	eB	75 kJ/m ² ^{A, B}
Abrasion resistance (CQP112-1 / ISO 4649)		160 mm ³ ^{A, B}
Heat deflection temperature (CQP030-1 / ISO 75B)		65 °C ^{A, B}
Shelf life		12 months

CQP = Corporate Quality Procedure

^{A)} 60 °C mold temperature^{B)} curing condition: after demolding 7 days at 23 °C

DESCRIPTION

SikaBiresin® RG51 HS is a very fast 2-component polyurethane low pressure RIM system for manufacturing of shock-resistant parts. The Product must be processed with an adequate equipment.

PRODUCT BENEFITS

- Simulation of PE / PP
- Very high impact resistance
- High abrasion resistance
- Short demolding time
- Good flow behavior

AREAS OF APPLICATION

SikaBiresin® RG51 HS is designed for manufacturing of robust housings and coverings for electronic devices, portable tools and machine components, shock absorbers in construction and mining environment and cladding for parts which are subjected to high mechanical stress.

This product is suitable for experienced professional users only.

METHOD OF APPLICATION

Surface preparation

Surfaces must be clean, dry, and free from grease, oil and dust.
It is recommended to use wax-based release agents. For further information regarding Sika release agent consult the corresponding Product Data Sheet.

Mixing process

Prior to use check the material for homogeneity and crystallization. After prolonged storage at low temperature, crystallization of components may occur. This process can be easily reversed by heating the affected component to a maximum of 70 °C until the crystals have disappeared. Allow to cool down to requested processing temperature before use.
Component A must be stirred thoroughly before use.
An agitator/stirring device for the A component and Silicagel filters for both components are required.
Both components must be mixed homogeneously respecting the defined mixing ratio. Containers must be closed tightly immediately after use to prevent moisture ingress. Once opened the Product shall be used as soon as possible.

Application

The material and processing temperature for component A is 30 °C, to avoid a brittle phase at short demolding time.
The mold temperature shall be 60 °C.
SikaBiresin® RG51 HS is processed using 2-component low-pressure equipment. These equipment must be specifically set up for processing the parts to be manufactured.

The mixing process is performed by dynamic or static-dynamic mixing units.
The mold temperature has a significant influence on the mechanical and thermal properties of the final part. In case of lower mold temperature those properties may be improved by a post curing process.
Depending on the geometry and weight of the part, it is recommended to use a conformer while post curing.

STORAGE CONDITIONS

Both components must be stored at temperature between 15 °C and 25 °C in original unopened containers.

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 Industry.
Copies of the following publications are available on request:

- Safety Data Sheets

PACKAGING INFORMATION

SikaBiresin® RG51 HS (A)

Hobbock	20 kg
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SikaBiresin® RG530 (B)

Bottle	0.975 kg
Canister	10 kg 20 kg
Drum	200 kg

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.

DISCLAIMER

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.

