

PRODUCT DATA SHEET

SikaBiresin[®] RG53 (Biresin[®] RG53)

LOW PRESSURE RIM SYSTEM – SIMULATION OF PE / PP

APPLICATIONS

- Manufacture of housings and coverings
- Manufacture of very impact resistant technical parts
- Manufacture of thin walled mouldings with complex structures

MAIN PROPERTIES

- Fast curing with good flowability
- Short demoulding time
- Cured parts can be machined
- With **SikaBiresin[®] RG500** (B) for higher temperature resistance
- With **SikaBiresin[®] RG530** (B) for higher mechanical properties

DESCRIPTION

| | |
|-------------|--|
| Basis | Two component polyurethane system |
| Component A | SikaBiresin[®] RG53 , polyol, beige and black |
| Component B | SikaBiresin[®] RG500 , MDI-based isocyanate, brown SikaBiresin[®] RG530 , MDI-based isocyanate, amber |

PHYSICAL PROPERTIES

| | | Polyol (A) | Isocyanate (B) | Isocyanate (B) |
|--------------------------------------|--------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| Components | | SikaBiresin[®] RG53 | SikaBiresin[®] RG500 | SikaBiresin[®] RG530 |
| Viscosity, 25 °C | mPa.s | ~ 2,200 | ~ 110 | ~ 175 |
| Density | g/cm ³ | 1.03 | 1.23 | 1.23 |
| Mixing ratio A:B | in parts by weight | 100 | 75 | 80 |
| Mixing ratio A:B | in parts by volume | 100 | 62 | 66 |
| | | Mixture | | |
| Colour | | beige / black | | |
| Pot life, room temperature | s | ~ 60 | | |
| Demoulding time, room temperature | min | > 10 | | |
| Curing time, room temperature | d | ~ 1 | | |

MECHANICAL PROPERTIES

approx. values

| | | | SikaBiresin® RG500 | SikaBiresin® RG530 |
|---------------------|----------|-------------------|--------------------|--------------------|
| Density | ISO 1183 | g/cm ³ | 1.2 | 1.2 |
| Shore hardness | ISO 868 | - | D 78 | D 80 |
| Flexural 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/m ² | 95 / 50* | 90 / 60* |

THERMAL AND SPECIFIC PROPERTIES

approx. values

| | | | SikaBiresin® RG500 | SikaBiresin® RG530 |
|-----------------------------|---------|----|--------------------|--------------------|
| Heat deflection temperature | ISO 75B | °C | 63 / 120* | 60 / 110* |

* values after post curing: 4 h / 80 °C +
2 h / 120 °C

PACKAGING UNITS

- | | |
|--|--|
| ■ Polyol (A), SikaBiresin® RG53, beige | 20 kg / 200 kg |
| ■ Polyol (A), SikaBiresin® RG53, black | 20 kg / 200 kg / 1,000 kg |
| ■ Isocyanate (B), SikaBiresin® RG500 | 5 kg / 20 kg / 250 kg |
| ■ Isocyanate (B), SikaBiresin® RG530 | 0.975 kg / 10 kg / 20 kg / 200 kg / 1,200 kg |

PROCESSING DATA

- The material and processing temperature should be at least 18 – 25 °C, mould temperature at least 20 – 60 °C.
- 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. The final thermal properties depend on the process and production conditions.
- 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.

STORAGE CONDITIONS

| | |
|---------------------|---|
| Shelf life | <ul style="list-style-type: none">▪ Polyol (A), SikaBiresin® RG53 12 months▪ Isocyanate (B), SikaBiresin® RG500 12 months▪ Isocyanate (B), SikaBiresin® RG530 12 months |
| Storage temperature | <ul style="list-style-type: none">▪ Polyol (A), SikaBiresin® RG53 18 – 25 °C▪ Isocyanate (B), SikaBiresin® RG500 18 – 25 °C▪ Isocyanate (B), SikaBiresin® RG530 18 – 25 °C |
| Crystallization | <ul style="list-style-type: none">▪ After prolonged storage at low temperature, crystallization of B component may occur.▪ This is easily removed by warming up for a sufficient time to a maximum of 70 °C.▪ Allow to cool to requested processing temperature before use. |
| Opened packagings | <ul style="list-style-type: none">▪ Containers must be closed tightly immediately after use to prevent moisture ingress.▪ The residual material needs to be used up as soon as possible. |

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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