BUILDING TRUST

PRODUCT DATA SHEET

RIM 976

LOW PRESSURE RIM SYSTEM WITH A VERY HIGH TEMPERATURE RESISTANCE – SIMULATION OF PE / PP AND ABS

APPLICATIONS

- Manufacture of housings and coverings with high temperature resistance
- Manufacture of impact resistant technical parts, e.g. under-the-hood parts
- Stiff parts

MAIN PROPERTIES

- Simulation of PE / PP and ABS
- Very high temperature resistance with 150 °C
- Can be mixed with RIM 975 in order to reach different flexural modulus between 1,000 and 2,000 MPa

DESCRIPTION

Basis	Two component polyurethane system
Component A	**RIM 976**, polyol, black
Component B	**SikaBiresin® RG900,** MDI-based isocyanate, dark amber

PHYSICAL PROPERTIES

		Polyol (A)	Isocyanate (B)
Components		**RIM 976**	**SikaBiresin® RG900**
Viscosity, 25 °C	mPa.s	~ 1,500	~ 1,500
Density, 25 °C	g/cm³	1.09	1.22
Mixing ratio A:B	in parts by weight	100	100
Mixing ratio A:B, 25 °C	in parts by volume	100	89
		Mixture	
Colour		black	
Pot life, 25 °C, 100 g	s	~ 35 – 40	
Demoulding time, 23 °C	min	~ 10	
Maximal casting thickness	mm	10	

MECHANICAL PROPERTIES

approx. values

Density, 23 °C	ISO 2781	g/cm³	1.18
Shore hardness	ISO 868	-	D 80*
Flexural modulus	ISO 178	MPa	2,000*
Tensile strength	ISO 527	MPa	50*
Elongation at break	ISO 527	%	10*
Impact resistance	ISO 179	kJ/m²	40*
Linear shrinkage, 23 °C - 2 to 3 mm thickness - 4 to 5 mm thickness	Internal test	mm	 5 – 6* 8 – 9*

THERMAL AND SPECIFIC PROPERTIES

approx. values

Using temperature		°C	-20 – 130*
Glass transition temperature	ISO 11359	°C	150*
Coefficient of thermal expansion, [0, 100] °C	ISO 11359	$10^{-6}K^{-1}$	110*

* values after postcuring:
4 h / 80 °C + 2 h / 130 °C

PACKAGING UNITS

- Polyol (A), **RIM 976** 18 kg
- Isocyanate (B), **SikaBiresin® RG900** 18 kg

PROCESSING DATA

- The material and processing temperature should be at least 18 – 25 °C, mould temperature at least 55 – 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.
- 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.
- Adekit A 310 adhesive is particularly recommended for bonding this resin to itself or with different materials, such as thermoplastics, steel, etc.
- Before repairing or bonding surfaces, degrease the part with alcohol or acetone. We recommend to use Sika® Reinigungsmittel-5.

STORAGE CONDITIONS

Shelf life	▪ Polyol (A), **RIM 976**	12 months
	▪ Isocyanate (B), **SikaBiresin® RG900**	12 months
Storage temperature	▪ Polyol (A), **RIM 976**	15 – 25 °C
	▪ Isocyanate (B), **SikaBiresin® RG900**	15 – 25 °C
Crystallization	▪ 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 40 – 60 °C. ▪ Allow to cool to requested processing temperature before use.	
Opened packagings	▪ 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.

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