BUILDING TRUST

PRODUCT DATA SHEET

Biresin® RG57 FR

LOW PRESSURE RIM SYSTEM FOR FLAME RETARDANT PARTS – SIMULATION OF ABS

APPLICATIONS

- Manufacture of stiff housings and coverings
- Manufacture of thin walled mouldings with complex structure
- Manufacture of flame retardant parts

MAIN PROPERTIES

- Simulation of ABS
- Fast curing with good flowability
- Short demoulding time
- Flame retardant according to **UL 94; V0** at 3 mm thickness
- Flame retardant according to **DIN EN 45545-2; R1/R22/R23**

DESCRIPTION

Basis	Two component polyurethane system
Component A	**Biresin® RG57 FR**, polyol, beige and black
Component B	**Biresin® U5,** MDI-based isocyanate, brown

PHYSICAL PROPERTIES

		Polyol (A)	Isocyanate (B)
Components		**Biresin® RG57 FR**	**Biresin® U5**
Viscosity, 25 °C	mPa.s	~ 3,800	~ 110
Density	g/cm³	1.30	1.23
Mixing ratio A:B	in parts by weight	100	44
		Mixture	
Colour		beige / black	
Pot life, room temperature	s	~ 55	
Demoulding time, room temperature	min	> 10	
Curing time, room temperature	d	~ 1	

MECHANICAL PROPERTIES

approx. values; processing conditions: aluminium mould with 60 °C mould temperature

Density	ISO 1183	g/cm³	1.30
Shore hardness	ISO 868	-	D 80
Flexural modulus	ISO 178	MPa	2,350
Flexural strength	ISO 178	MPa	70
Tensile strength	ISO 527	MPa	38
Elongation at break	ISO 527	%	4
Impact resistance	ISO 179	kJ/m²	20

THERMAL AND SPECIFIC PROPERTIES

approx. values; processing conditions: aluminium mould with 60 °C mould temperature

Heat deflection temperature	ISO 75B	°C	90

PACKAGING UNITS

■ Polyol (A), **Biresin® RG57 FR** beige	25 kg / 220 kg
■ Polyol (A), **Biresin® RG57 FR** black	25 kg / 200 kg
■ Isocyanate (B), **Biresin® U5**	5 kg / 20 kg / 250 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 postcuring 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 postcuring.
- Before overpainting, the parts have to be grinded or sandblasted. A polyurethane paint is recommended.

STORAGE CONDITIONS

Shelf life	■ Polyol (A), **Biresin® RG57 FR** ■ Isocyanate (B), **Biresin® U5**	12 months 12 months
Storage temperature	■ Polyol (A), **Biresin® RG57 FR** ■ Isocyanate (B), **Biresin® U5**	18 – 25 °C 18 – 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 70 °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.	

FLAME RETARDANT APPROVALS

UL94 - Tests for Flammability of Plastic Materials for Parts in Devices and Appliances – 3 mm thickness

UL94	■ V0

DIN EN 45545-2 - Railway applications - Fire protection on railway vehicles - Requirements for fire behavior of materials and components

DIN EN ISO 5659-2 – 4 mm thickness	■ Smoke density: Ds (max) = 253 ■ R22 / HL 2 ■ R23 / HL 3
DIN EN ISO 4589-2 – 4 mm thickness	■ Oxygen Index = 32.8% ■ R22 / HL 3 ■ R23 / HL 3 ■ R24 / HL 3
DIN EN ISO 5658-2 – 4 mm thickness	■ CFE critical flux at extinguishment: 13,81 kW/m²
NF X 70-100-1:2006 – 3 mm thickness	■ CIT_{NLP}: 0.28

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

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