

PRODUCT DATA SHEET

SikaBiresin[®] F50 (F50)

FILLED RIGID PU RESIN FOR LARGE SIZE CASTINGS AND FURTHER REFILLABLE
LONG POT LIFE 35 – 50'

APPLICATIONS

- Multi-purpose tooling applications in large dimensions such as negatives, molds or mock-ups
- Refillable with mineral or metallic fillers to enable larger castings in higher thicknesses and enhancing cured properties

MAIN PROPERTIES

- Low exothermic reaction
- Casting in high thickness (400 mm)
- Adhesion between successive layers
- Filled with RZ 30150 / TE Filler in order to reduce exothermic reaction and shrinkage
- Filled with RZ 209/6 / aluminum powder in order to improve heat transfer

DESCRIPTION

Basis	Two component polyurethane system
Component A	SikaBiresin[®] F50 , polyol, filled, light beige
Component B	SikaBiresin[®] F50 , MDI-based isocyanate, unfilled, dark amber
Filler	RZ 30150 / TE Filler , aluminum hydroxide powder, white

PHYSICAL PROPERTIES

		Polyol (A)	Isocyanate (B)	Filler	
		SikaBiresin[®] F50	SikaBiresin[®] F50	RZ 30150 / TE Filler	
Components		SikaBiresin[®] F50	SikaBiresin[®] F50	RZ 30150 / TE Filler	
Viscosity, 25 °C	mPa.s	~ 3,500	~ 25	not measurable	
Density	g/cm ³	1.26	1.22	not measurable	
Mixing ratio A:B	in parts by weight	100	50	180	240
Mixture					
Colour		beige		beige	
Viscosity, 25 °C	mPa.s	~ 350		~ 7,500	~ 20,000
Pot life, 25 °C, 200 g	min	35 – 50		not measured	
Demoulding time, 25 °C	h	6 – 12		6 – 12	

MECHANICAL PROPERTIES

approx. values; values after post curing 14 h / 60 °C

			SikaBiresin® F50	RZ 30150 / TE Filler with 180 parts by weight	RZ 30150 / TE Filler with 240 parts by weight
Density	ISO 1183	g/cm ³	1.24	1.75	1.80
Shore hardness	ISO 868	-	D 83	D 85	D 86
Flexural modulus	ISO 178	MPa	2,700	5,200	9,700
Flexural strength	ISO 178	MPa	80	55	60
Compressive strength at yield	ISO 604	MPa	85	90	95
Linear shrinkage (1000 x 140 x 140 mm)	Internal test	mm/m	not measured	0.5	0.5

THERMAL AND SPECIFIC PROPERTIES

approx. values; values after post curing 14 h / 60 °C

			SikaBiresin® F50	RZ 30150 / TE Filler with 180 parts by weight	RZ 30150 / TE Filler with 240 parts by weight
Glass transition temperature	ISO 11359	°C	65	not measured	not measured
Coefficient of thermal expansion (20 °C to 55 °C)	ISO 11359	10 ⁻⁶ K ⁻¹	75	53	50
Exothermic reaction at heart (280mm - 15L)	internal test	°C	not measured	60	50

PACKAGING UNITS

■ Polyol (A), SikaBiresin® F50	20 kg / 10 kg
■ Isocyanate (B), SikaBiresin® F50	10 kg / 5 kg
■ Filler, RZ 30150 / TE Filler	25 kg

PROCESSING DATA

- The material, processing and mould temperature should be at least 18 – 25 °C.
- Pay attention to dry conditions and dry mould surfaces while processing.
- If mould surface is porous it must be sealed prior applying release agent.
- Recommend release agents are wax based. For more information, and recommendation see Product Data Sheets of Sika release agents or contact local technical assistance.
- Component A must be stirred thoroughly before use.
- Both components have to be mixed thoroughly with a spatula or low-rpm stirrer according to mixing ratio and poured immediately into the mould starting from the deepest point.
- It is recommended to add fillers after both components have been fully mixed together and stir until complete mixture is homogeneous again before pouring.
- 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.
- For cleaning the final part from release agent residues, we recommend Sika® Reinigungsmittel-5. Before use of other cleaners, compatibility must be tested.

STORAGE CONDITIONS

Shelf life	■ Polyol (A), SikaBiresin® F50	12 months
	■ Isocyanate (B), SikaBiresin® F50	12 months
	■ Filler, RZ 30150 / TE Filler	24 months
Storage temperature	■ Isocyanate (A), SikaBiresin® F50	15 – 25 °C
	■ Polyol (B), SikaBiresin® F50	15 – 25 °C
	■ Filler, RZ 30150 / TE Filler	15 – 25 °C
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.

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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