

PRODUCT DATA SHEET

SikaBiresin® UR745

Adjustable elastomeric casting resin for production of flexible molds and parts

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties		Component A SikaBiresin® UR703	Component B SikaBiresin® UR745
Chemical base		Isocyanate	Polyol
Color		Straw yellow	Beige
	mixed	Beige	
Density		1.04 kg/l	1.22 kg/l
	cured	1.15 kg/l	
Mixing ratio	by weight	60 : 100	
	by weight	70 : 100	
Viscosity (CQP029-4)		2400 mPa·s	2000 mPa·s
	mixed	2300 mPa·s ^A	
	mixed	2450 mPa·s ^B	
Pot life (CQP021-4)	160 g at 23 °C	35 minutes	
Demolding time		18 hours	
Curing time	at 23 °C	96 hours	
Casting thickness		up to 150 mm	
Shore A hardness (CQP023-1 / ISO 868)	A1	45 ^{A, C}	
	A1	55 ^{B, C}	
Tensile strength (CQP036-6 / ISO 37)		3.5 MPa ^{A, B, C}	
Tear strength (CQP045-1 / ISO 34)		16 kN/m ^{A, C}	
		18 kN/m ^{B, C}	
Elongation at break (CQP 036-6 / ISO 37)		1300 % ^{A, C}	
		1100 % ^{B, C}	
Linear shrinkage (CQP014-5)	1000 x 50 x 10 mm	1 mm/m ^{A, B, C}	
Glass transition temperature (CQP301-5 / ISO 11357)		0 °C ^{A, B, C}	
Shelf life		12 months	

CQP = Corporate Quality Procedure

^{A)} mixing ratio: 60 : 100^{B)} mixing ratio: 70 : 100^{C)} post curing: 40 °C for 16 hours

DESCRIPTION

SikaBiresin® UR745 is a 2-component polyurethane elastomeric casting resin for production of flexible molds and parts.

The Product features an adjustable mixing ratio that allows selection between two distinct hardness levels, enabling optimal adaptation to specific application requirements.

PRODUCT BENEFITS

- Two hardness level available A45 to A55
- Low moisture sensitivity
- Low shrinkage after hardening
- Very high elongation at break
- Good chemical resistance

AREAS OF APPLICATION

SikaBiresin® UR745 is designed for production of flexible molds or parts by hand casting or with 2-component low pressure equipment. This product is suitable for experienced professional users only. Tests under actual processing conditions and with additional materials such as coatings and release agents must be performed to proof material compatibility.

METHOD OF APPLICATION

Surface preparation

The material, processing and mold or master-model temperature shall be between 18 °C – 25 °C.

Make sure the mold or master model is clean, dry, dust and grease free.

If mold or master-model surface is porous, it must be sealed prior applying the release agent.

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.

Consider, pot life is affected by temperature and mixed quantity.

Beige color of the polyol could be more or less dark depending on the batch number and age of the product. This does not impact the final performances of the casted polyurethane.

If the Product needs to be pigmented, max. 1 % of SikaBiresin® Color Paste shall be added.

Add the pigment in component B and stir to homogenize prior mixing with component A.

In case of a slightly wet model (gypsum, plaster type), ratio 70 : 100 has to be used in order to get a good curing on model surface.

Both components must be mixed thoroughly respecting the defined mixing ratio. The mixing can be performed with a spatula or a machine stirrer at ≤ 300 rpm.

To secure homogeneous and complete mixing, pour the mixed product into another container and mix again shortly, considering the pot life.

Note: Both containers must be closed tightly immediately after use to prevent moisture ingress.

Once opened the Product shall be used as soon as possible.

Application

Immediately after mixing pour the Product into the mold starting at the deepest point.

Demolding time may vary depending on casted thickness and room temperature.

To achieve the highest performance, leave the elastomeric mold at a temperature ≥ 23 °C for 5 days before using it.

In case the Product is processed with a 2-component low-pressure equipment, follow the instruction of the equipment supplier.

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® UR703 (A)

Canister	9.3 kg 11.4 kg ^A
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SikaBiresin® UR745 (B)

Pail	13.3 kg 8 kg ^A
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^A Packaging only for full container loads

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.

PRODUCT DATA SHEET

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