BUILDING TRUST

PRODUCT DATA SHEET

# SikaBiresin® UR390

Elastomeric casting resin with good abrasion resistance

## TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

| Properties | | SikaBiresin® UR390 (A) | SikaBiresin® UR390 (B) |
|---|---|---|---|
| Chemical base | | Isocyanate | Polyol |
| Color | | White | Amber to dark amber |
| | mixed | Beige to dark beige | |
| Density | | 1.08 kg/l | 1.08 kg/l |
| | cured | 1.08 kg/l | |
| Mixing ratio | by weight, volume | 100 : 50 | |
| Viscosity (CQP029-4) | | 3000 mPa·s | 150 mPa·s |
| | mixed | 1500 mPa·s | |
| Pot life (CQP021-4) | 150 g at 23 °C | 14 minutes | |
| Demolding time | at 23 °C / 80 °C | 16 hours / 4 hours | |
| Curing time | at 23 °C | 6 days | |
| | at 80 °C, after gelification | 8 hours | |
| Casting thickness | | up to 10 mm | |
| Shore D hardness (CQP023-1 / ISO 868) | D1 / D15 | 67 [A] / 64 [A] | |
| Flexural modulus (CQP027-2 / ISO 178) | | 450 MPa [A] | |
| Flexural strength (CQP027-2 / ISO 178) | | 28 MPa [A] | |
| Tensile modulus (CQP036-6 / ISO 527) | | 530 MPa [A] | |
| Tensile strength (CQP036-6 / ISO 527) | | 27 MPa [A] | |
| Tear strength (CQP045-1 / ISO 34) | | 94 kN/m [A] | |
| Elongation at break (CQP036-6 / ISO 527) | | 120 % [A] | |
| BASHORE resilience (ASTM 2632) | | 62 % [A] | |
| Impact resistance (CQP038-2 / ISO 179) | | no break [A] | |
| Linear shrinkage (CQP014-5) | 250 x 50 x 3 mm | 5 mm/m [A] | |
| Abrasion resistance (Taber) (ISO 5470) | | 54 mg/100U [A] | |
| Glass transition temperature (CQP301-5 / ISO 11357) | | 100 °C [A] | |
| Linear coefficient of thermal expansion (CQP053-1 / ISO 11359) | 0 – 40 °C | 140 x $10^{-6}$ 1/K [A] | |
| Service temperature | | -40 – 80 °C | |
| Shelf life | | 12 months | |

CQP = Corporate Quality Procedure

[A] curing condition: 16 hours for 70 °C

## DESCRIPTION

SikaBiresin® UR390 is a 2-component polyurethane elastomeric casting resin with good abrasion resistance for production of flexible molds for foundry tools.

## PRODUCT BENEFITS

- Good abrasion resistance
- Good shock resistance
- Quick hardening
- Low toxicity

## AREAS OF APPLICATION

SikaBiresin® UR390 is designed for casting of flexible molds for foundry tools (patterns, core boxes) on aluminium pre-forms and similar materials. It is well suited for manufacturing of impact and abrasion resistant parts.
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 50 °C until the crystals have disappeared. Allow to cool down to requested processing temperature before use.
Note: Variations in color have no influence on the product's performance or properties.
Consider, pot life is affected by temperature and mixed quantity.
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.
To improve adhesion to aluminum surfaces, it is recommended to use Sika® Activator-205.
Demolding time may vary depending on casted thickness and room temperature.

## 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® UR390 (A)

| | |
|---|---|
| Box with bottles | 6 x 1 kg |
| Canister | 5 kg |

SikaBiresin® UR390 (B)

| | |
|---|---|
| Box with bottles | 6 x 0.5 kg |
| Canister | 2.5 kg |

## 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.



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