

PRODUCT DATA SHEET

SikaBiresin® PX211

Vacuum casting polyurethane for technical parts and prototypes

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties	Component A SikaBiresin® PX22	Component B SikaBiresin® PX211
Chemical base	Isocyanate	Polyol
Color	Light yellow	Transparent
	mixed	Translucent
Density	1.21 kg/l	1.01 kg/l
	cured	1.15 kg/l
Mixing ratio	by weight	100 : 100
Viscosity (CQP538-2 / BROOKFIELD LVT)	250 mPa·s	700 mPa·s
	mixed	450 mPa·s
Pot life (CQP021-3 / Gel Timer TECAM)	200 g at 23 °C	6 minutes
Demolding time		60 minutes
Maximum casting thickness		5 mm
Shore D hardness (CQP023-1 / ISO 868)		68 ^A
Flexural modulus (CQP027-2 / ISO 178)		1200 MPa ^A
Flexural strength (CQP027-2 / ISO 178)		53 MPa ^A
Tensile strength (CQP036-2 / ISO 527)		32 MPa ^A
Elongation at break (CQP036-2 / ISO 527)		68 % ^A
Impact resistance (CQP038-2 / ISO 179)		76 kJ/m ² ^A
Heat deflection temperature (CQP030-1 / ISO 75A)		58 °C ^A
Glass transition temperature (CQP053-1 / ISO 11359)		93 °C ^A
Shelf life		6 months

CQP = Corporate Quality Procedure

^{A)} curing condition: 80 °C for 16 hours

DESCRIPTION

SikaBiresin® PX211 is a 2-component vacuum casting polyurethane system for manufacturing of technical parts and prototypes.

PRODUCT BENEFITS

- Very high impact resistance
- High mechanical strength
- Low viscosity
- Fast demolding

AREAS OF APPLICATION

SikaBiresin® PX211 is designed for manufacturing of prototype parts and mock-ups by vacuum casting with mechanical properties close to those of thermoplastics like polypropylene and HDPE by casting in silicone molds. 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

The material and processing temperature shall be between 18 °C and 25 °C. Temperature of a silicone mold shall be 70 °C. The material can only be used in a vacuum casting machine.

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.

Prior to mixing component B must be shaken thoroughly.

Weigh the polyol into the upper mixing cup according to the mixing ratio. Take into account the material residues that remain in the upper cup when it is emptied into the lower cup.

Weigh the isocyanate into the lower mixing cup according to the mixing ratio.

Both components shall be evacuated separately under vacuum until air bubbles disappeared.

After evacuation, both components shall be mixed in vacuum chamber at least for 45 seconds, 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 preheated silicone mold. After casting, place the mold in a preheated oven (70 °C) for 60 minutes to cure.

Further post curing of the demolded 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.

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® PX22 (A)

Box with bottles	6 x 1.2 kg
Canister	6 kg

SikaBiresin® PX211 (B)

Box with bottles	6 x 0.6 kg
Canister	3 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.

