

PRODUCT DATA SHEET

SikaBiresin® PX280

VACUUM CASTING POLYURETHANE FOR TECHNICAL PARTS AND PROTOTYPES
FLEXURAL MODULUS 2800 MPa – TG 80 °C

APPLICATIONS

- Making prototype parts and mock-ups with mechanical properties similar to thermoplastics like filled ABS or filled polypropylene by casting in silicone moulds. FDA compliant

MAIN PROPERTIES

- Compliance with directive 2002/72/CE
- Compliance with directive 2007/19/CE regarding food contact
- Compliance with FDA 21 CFR 177.2600 regulation for repeated use
- Good impact and flexural resistance
- Can be easily coloured with CP pigments (lost of FDA approval)

DESCRIPTION

Basis	Two component polyurethane system
Component A	SikaBiresin® PX280 , Isocyanate, amber
Component B	SikaBiresin® PX280 Polyol, white

PHYSICAL PROPERTIES

			Isocyanate (A)	Polyol (B)
Components			SikaBiresin® PX280	SikaBiresin® PX280
Viscosity, 25 °C	mPa.s	BROOKFIELD LVT	~ 450	~ 500
Density, 25 °C		ISO 1675 : 1985	1.22	1.08
Mixing ratio, 23 °C	in parts by weight		100	80
			Mixture	
Colour			Off-white	
Viscosity, 25 °C	mPa.s	BROOKFIELD LVT	500	
Pot life, 180 g, 25 °C	min	Gel Timer TECAM	22	
Advised Maximum casting thickness	mm		10	

MECHANICAL PROPERTIES

(Average values obtained on standardized specimens / 16 h at 70 °C)

Density, 23 °C	ISO 2781 : 1996		1.19
Shore hardness	ISO 868 : 2003	Shore D1 @ 23°C	85
Tensile strength	ISO 527 : 1993	MPa	117
Elongation at break in tension	ISO 527 : 1993	%	5
Flexural modulus of elasticity	ISO 178 : 2001	MPa	2,800
Flexural strength	ISO 178 : 2001	MPa	75
Impact resistance (CHARPY)	ISO 179/1eU : 1994	kJ/m ²	25

THERMAL AND SPECIFIC PROPERTIES

(Average values obtained on standardized specimens / 16 h at 70 °C)

Glass transition temperature (Tg)	ISO 11359-2 : 1999	°C	80
Heat Deflection Temperature	ISO 75 Ae: 2004	°C	N.A
Limit of temperature for FDA & CE compliance		°C	50
Demoulding time, 3 mm, 70 °C		h	2

PACKAGING UNITS

- SikaBiresin® PX280 (A) isocyanate 6.00 KG; 22.00 KG net
- SikaBiresin® PX280 (B) polyol 4.8 KG; 17.60 KG net

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products:

- Ensure good ventilation.
- Wear gloves, glasses and protective clothes.

For further information, please consult the Safety Data Sheets.

PROCESSING DATA

Manuel casting process:

- Heat the mould or not (it changes demoulding time)
- From RT up to 70 °C (only polyaddition silicone mould)
- Heat isocyanate and polyol at 23 °C in case of storage at lower temperature
- Weigh Polyol and Isocyanate according to mix ratio 100:80 and mix carefully 2 minutes
- After degassing for 5 minutes under vacuum, cast in the mould.
- Let it cure 12 hours at RT or 4 hours at 50 °C or 3 hours at 70 °C
- Open the mould carefully and let it cool down for couple of minutes before releasing part.

Same could be done in a vacuum casting machine

STORAGE CONDITIONS

Shelf life	▪ Isocyanate (A), SikaBiresin® PX280	09 months
	▪ Polyol (B), SikaBiresin® PX280	09 months
Storage temperature	▪ Isocyanate (A), SikaBiresin® P280	15 – 25 °C
	▪ Polyol (B), SikaBiresin® PX280	15 – 25 °C

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- Storage process
- In case of long storage, polyol (B) component shows a white layer at bottom of its canister. Do not intend to remix that hard layer when shaking the polyol pack before use with iso.
 - The occurrence of that hard layer does not modify final properties of the resin if not mixed with the liquid part.

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- Opened packagings
- Any open containers must be tightly sealed and stored in a dry place under dry nitrogen.
 - Avoid storage of open containers for more than few days

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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September 2020, Version 01 /2020

Sika Advanced Resins