

PRODUCT DATA SHEET

SikaBiresin® PX331

VACUUM CASTING POLYURETHANE FOR PROTOTYPES AND TECHNICAL PARTS SELF EXTINGUISHING – TG 100 °C

APPLICATIONS

- Casting in silicone moulds: for prototypes and technical parts
- Mechanical properties close to filled ABS with fire classification

MAIN PROPERTIES

- Self-extinguishing UL94 V0 and FAR25
- Quick demolding time
- Good thermal properties
- Easy processing

DESCRIPTION

Basis	Two components polyurethane system
Component A	SikaBiresin® PX331 , Isocyanate, yellowish
Component B	SikaBiresin® PX331 , Polyol filled, off-white

PHYSICAL PROPERTIES

			Isocyanate (A)	Polyol (B)
Components			SikaBiresin® PX331	SikaBiresin® PX331
Viscosity, 25 °C	mPa.s	BROOKFIELD LVT	~ 150	~ 3900
Density, 25 °C	g/cm ³	ISO 1675 : 1985	1.22	1.37
Mixing ratio, 23 °C	in parts by weight		100	100
			Mixture	
Colour			Off white	
Viscosity, 25 °C			700 ⁽¹⁾	
Pot life, 200 g, 25 °C	min	Gel Timer TECAM	5.36 – 8.20	

(1) Viscosity at 1 minute after mixing start (mixing is not immediately miscible)

MECHANICAL PROPERTIES

(Average values obtained on standardized specimens / 1 h at 70 °C + 16 h at 80 °C)

Density, 23 °C	ISO 2781 : 1996	g/cm ³	1.35
Shore hardness	ISO 868 : 2003	Shore D1	86
Tensile modulus of elasticity	ISO 527 : 1993	MPa	4500
Tensile strength	ISO 527 : 1993	MPa	55
Elongation at break in tension	ISO 527 : 1993	%	4
Flexural modulus of elasticity	ISO 178 : 2010	MPa	3700
Flexural strength	ISO 178 : 2010	MPa	133
Flexural strain at flexural strength	ISO 178 : 2010	%	4.2
Impact resistance (CHARPY)	ISO 179/1eU : 1994	kJ/m ²	26

THERMAL AND SPECIFIC PROPERTIES

(Average values obtained on standardized specimens / 1 h at 70 °C + 16 h at 80 °C)

Glass transition temperature (T _g)	ISO 11359-2 : 1999	°C	100
Heat deflection temperature	ISO 75 : 2004	°C	90
Maximal casting thickness	-	mm	5
Demoulding time, 3 mm, 70 °C	-	min	45
	FAR 25 § 853 b type	mm	1.5 ⁽¹⁾
Self extinguishing	NF EN 60695-11-10 type	3mm	V0
	UL 94 : File E113398	3mm	V0

(1) Meets the requirements of the FAR 25.853 for flammability 12 seconds on 1.5 mm.

PROCESSING DATA

- Heat the mould at 70 °C.
- Heat both parts at 23 °C in case of storage at a lower temperature.
- Shake strongly the polyol (B) before weighing
- Weigh isocyanate in the upper cup (do not forget to allow for residual cup waste).
- Weigh polyol in the lower cup (mixing cup).
- After degassing for 10 minutes under vacuum mix both components for 1 minutes.
- Cast in the silicone mould, previously heated at 70 °C.
- Demould after 45 minutes at 70 °C (leave mold and part cooling down before demoulding) → thickness > 3mm
- Demould after 75 minutes at 70 °C (leave mold and part cooling down before demoulding) → thickness < 3mm

PACKAGING UNITS

- Isocyanate (A), **SikaBiresin® PX331** 6 x 1 KG
- Polyol (B), **SikaBiresin® PX331** 6 x 1 KG

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.

STORAGE CONDITIONS

Shelf life	■ Isocyanate (A), SikaBiresin® PX331	6 months
	■ Polyol (B), SikaBiresin® PX331	6 months
Storage temperature	■ Isocyanate (A), SikaBiresin® PX331	15 – 25 °C
	■ Polyol (B), SikaBiresin® PX331	15 – 25 °C
Opened packagings	■ Any open containers must be tightly sealed and stored in a dry place under dry nitrogen.	
	■ Avoid storage for long time at a temperature over 25 °C.	

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 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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