



BUILDING TRUST



PX 331 POLYOL PX 331 ISOCYANATE

VACUUM CASTING POLYURETHANE
FOR PROTOTYPES AND TECHNICAL PARTS
SELF-EXTINGUISHING - T_g 100°C

DESCRIPTION

Polyurethane resin processed thanks to vacuum casting in pre-heated silicone moulds for making technical or prototype parts. Parts will show mechanical properties similar to thermoplastic like filled ABS when requiring a fire classification.

PROPERTIES

- Fast demolding
- Good thermal properties
- Self-extinguishing
- Easily colored with CP colorants*

*Addition of pigment invalids fire certification

PHYSICAL PROPERTIES				
Composition		ISOCYANATE PX 331	POLYOL PX 331	MIXED
Mix ratio by weight		100	100	
Aspect		Liquid	Liquid	Liquid
Colour		Yellowish	Off-White	Off-White
Viscosity at 25°C (mPa.s)	BROOKFIELD LVT	150	3000	700 ⁽¹⁾
Specific gravity at 25°C (g/cm ³)	ISO 1675 : 1985	1.22	1.37	-
Specific gravity of cured product at 23°C	ISO 2781 : 1996	-	-	1.35
Pot life at 25°C on 200 g (min)	Gel Timer TECAM	-	-	5 - 7

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

PROCESSING CONDITIONS

- Heat both parts up to 23°C in case of storage at lower temperature
- **CAUTION : Shake strongly the Polyol part before weighing**
- Weigh both parts (be careful of casting residual material)
- After 10 minutes under vacuum, start mixing for 1 minute
- Cast in silicone polyaddition mold (ESSIL 291) previously heated up to 70°C
- Demold after 45 minutes at 70°C (leave mold and part cooling down before demolding) → thickness > 3mm
- Demold after 75 minutes at 70°C (leave mold and part cooling down before demolding) → thickness < 3mm

HANDLING PRECAUTIONS

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

- Ensure good ventilation
- Wear gloves, safety glasses and waterproof clothes

For further information, please consult the product safety data sheet

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MECHANICAL PROPERTIES at 23°C (1)			
Hardness	ISO 868 : 2003	Shore D1	86
Tensile modulus	ISO 527 : 1993	MPa	4500
Tensile strength	ISO 527 : 1993	MPa	55
Elongation at break	ISO 527 : 1993	%	4
Flexural modulus	ISO 178 : 2010	MPa	3700
Flexural strength	ISO 178 : 2010	MPa	133
Flexural strain at flexural strength	ISO 178 : 2010	%	4.2
Impact strength (CHARPY) <i>Unnotched specimens</i>	ISO 179/1eU : 1994	kJ/m ²	26

THERMAL AND SPECIFIC PROPERTIES (2)			
Glass transition temperature (Tg)	ISO 11359-2 : 1999	°C	100
Deflection temperature	ISO 75 : 2004	°C	90
Maximal casting thickness	-	mm	5
Demolding time at 70°C	-	Min	45
Self-Extinguishing	FAR 25 § 853 b type	mm	1.5 ⁽³⁾
	NF EN 60695-11-10 type	3 mm	V0
	UL 94 : File E113398	3 mm	V0

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

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

STORAGE CONDITIONS

Shelf life of both parts is 6 months in a dry place and in their original unopened containers at a temperature between 15 and 25°C. Any open can must be tightly closed under dry nitrogen

PACKAGING

ISOCYANATE PX 331	POLYOL PX 331	KIT
6 x 1 Kg	6 x 1 Kg	(6 x 1) + (6 x 1) Kg

GUARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of AXSON products, under their own conditions before commencing with the proposed application. AXSON guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. AXSON disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of AXSON is strictly limited to reimbursement or replacement of products which do not comply with the published specifications.