

**VACUUM CASTING POLYURETHANE  
FOR TECHNICAL PARTS AND PROTOTYPES**  
 FLEXURAL MODULUS 2,100 MPa – T<sub>g</sub> 95°C

**DESCRIPTION**

*Casting in silicone mould : prototype parts and mock-ups with mechanical properties similar to thermoplastics such as ABS*

**PROPERTIES**

- Processing under vacuum recommended
- High reproduction accuracy
- Can be easily pigmented with colouring Cp
- High impact resistance

PHYSICAL PROPERTIES				
Composition		PX 221 ISOCYANATE	PX 221 POLYOL	MIXED
Mix ratio by weight		100	45	
Aspect		liquid	liquid	liquid
Colour		straw yellow	straw yellow	off-white
Viscosity at 25°C (mPa.s)	BROOKFIELD LVT	130	600	350
Specific gravity at 25°C (g/cm <sup>3</sup> )	ISO 1675 : 1985	1.17	1.11	-
Specific gravity of cured product at 23°C	ISO 2781 : 1996	-	-	1.20
Pot life at 25°C on 145 g (min)	-			7

**PROCESSING CONDITIONS**

*By crystallization of isocyanate (non homogeneous product) it should be placed in an oven at 50-60°C until the product becomes homogeneous. Homogenize again and let cool at room temperature before using.*

- Use in a vacuum casting machine
- Heat the mould at 70°C
- Heat both parts at 20°C in case of storage at lower temperature
- 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, pour the isocyanate in the polyol and mix for 1 minute
- Cast in the silicone mould, previously heated at 70°C
- Put in an oven at 70°C minimum
- Demould after 40 minutes at 70°C



BUILDING TRUST



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**MECHANICAL PROPERTIES at 23°C (1)**

Hardness	ISO 868 : 2003	Shore D1 / D15	81 / 79
Tensile modulus	ISO 527 : 1993	MPa	2,800
Tensile strength	ISO 527 : 1993 ISO 37 : 2011	MPa	60
Elongation at break	ISO 527 : 1993 ISO 37 : 2011	%	7.5
Flexural modulus	ISO 178 : 2010	MPa	2,100
Flexural strength	ISO 178 : 2010	MPa	105
Impact strength (CHARPY) <i>Unnotched specimens</i>	ISO 179/1eU : 1994	kJ/m <sup>2</sup>	71

**THERMAL AND SPECIFIC PROPERTIES (1)**

Glass transition temperature (T <sub>g</sub> )	ISO 11359-2 : 1999	°C	95
Coefficient of thermal expansion (CTE) (+20°C to +70°C)	ISO 11359-2 : 1999	10 <sup>-6</sup> K <sup>-1</sup>	78
Linear shrinkage	-	mm/m	5
Maximal casting thickness	-	mm	5
Time before demoulding at 70°C	-	min	30-40

(1) Average values obtained on standardized specimens / Hardening 16 hours 80°C

## 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.

## 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.

## 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. .

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