

# PX 223/HT

#### VACUUM CASTING POLYURETHANE RESIN FOR TECHNICAL PARTS AND PROTOTYPES FLEXURAL MODULUS 2,300 MPa - Tg 120 °C

## APPLICATIONS

Used by casting in silicone moulds for the realisation of prototype parts and mock-ups whose mechanical properties are close to those of thermoplastics.

## PROPERTIES

- Low viscosity for easy casting
  - Good impact and flexural resistance
- Temperature resistance above 120 °C

PHYSICAL PROPERTIES						
		PART A	PART B	MIXING		
Composition		ISOCYANATE	POLYOL			
Mixing ratio by weight at 25 ℃		100	80			
Aspect		liquid	Liquid	liquid		
Colour		colorless	black	black		
Viscosity at 25℃ (mPa.s)	BROOKFIELD LVT	1.100	300	850		
Density of parts before mixing at 25 ℃ Density of cured mixing at 23 ℃	ISO 1675 :1975 ISO 2781 :1988	1.17 -	1.12	- 1.14		
Pot life at 25℃ on 90g (min.)	-			6 - 7		

# PROCESSING (Vacuum casting machine)

- Vacuum casting into silicone molds.
- Both parts have to be processed at a temperature above +18 °C. •
- Important : Rehomogenize part B before each weighing.
- Degas each part before use.
- Mix for 45 seconds approx.
- Cast in a mold pre-heated at 40 °C minimum.
- Allow to cure 45 to 75 minutes at 70 °C before demoulding
- Carry out the following thermal treatment : 1 hr at 100 % + 2 hr at 110 % or more if possible.

NOTA : After demoulding it is not necessary to use a conformter to maintain the part in the oven during the post curing. Nevertheless it is advisable to ensure that the geometry or the mass of the part does not present any deformation risk.

#### HANDLING PRECAUTIONS

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

- ensure good ventilation
- wear gloves and safety glasses

For further information, please consult the product safety data sheet.

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MECHANICAL PROPERTIES AT 23 °C (1)						
Flexural modulus of elasticity	ISO 178 :2001	MPa	2.300			
Flexural strength	ISO 178 :2001	MPa	80			
Tensile strength	ISO 527 :1993	MPa	60			
Elongation at break in tension	ISO 527 :1993	%	11			
Charpy impact resistance	ISO 179/2D :1994	kJ/m <sup>2</sup>	> 60			
Hardness - at 23℃ - at 120℃	ISO 868 :1985	Shore D1	80 > 65			

THERMAL AND SPECIFIC PROPERTIES (1)						
Glass transition temperature	T.M.AMettler	°C	> 120			
Coefficient of linear thermal expansion (C <sub>L</sub> TE) [+15, +120]℃	T.M.AMettler	ppm/K	115			
Linear shrinkage	-	mm/m	4			
Maximal casting thickness	-	mm	5 - 10			

(1): Average values obtained on standardized specimens / Hardening 1 hr at 70 °C + 1 hr at 100 °C + 12 hr at 110 °C

# **STORAGE CONDITIONS**

Shelf life of both parts is 12 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 blanket.

## PACKAGING

*ISOCYANATE (Part A)* 6 x 1.0 kg 1 x 5.0 kg *POLYOL (Part B)* 6 x 0.80 kg 1 x 4.0 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.

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