PX 234 HT
PX 234 HT LS

CASTING URETHANE RESIN UNDER VACUUM FOR TECHNICAL AND PROTOTYPES PARTS

FLEXURAL MODULUS OF ELASTICITY 1,850 MPa - Tg : 220°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 with very good thermal resistance such as: PA6.6, PPS, PEEK.

PROPERTIES

- *Good thermal resistance*
- *Low viscosity*
- *Fast demoulding*
- *Good impact resistance*
- *Two pot life available*
- *Colourable*

PHYSICAL PROPERTIES				
Composition		**ISOCYANATE PX 234 HT**	**POLYOL PX 234 HT PX 234 HT LS**	**MIXING**
Mixing ratio by weight		100	50	
Aspect		liquid	liquid	liquid
Colour		transparent	transparent to light amber	light amber
Viscosity at 25°C (mPa.s)	BROOKFIELD LVT	300	200	250
Specific gravity at 25°C Specific gravity at 23°C	ISO 1675 :1985 ISO 2781 :1996	1.19 -	1.01 -	- 1.19
Pot life at 23°C on 150 g (min.)	Gel Timer TECAM		PX 234 HT PX 234 HT LS	5 8

MECHANICAL PROPERTIES AT 23°C AFTER HARDENING (1)				
Final hardness	at 23°C at 130°C at 150°C	ISO 868 : 2003	Shore D/1	80 70 65
Tensile modulus	at 23°C at 50°C at 100°C at 150°C	ISO 527 : 1993	MPa	1.800 1.020 675 515
Tensile strength	at 23°C at 50°C at 100°C at 150°C	ISO 527 : 1993	MPa	61 40 30 25
Flexural modulus		ISO 178 : 2001	MPa	1.850
Flexural strength		ISO 178 : 2001	MPa	80
Elongation at break		ISO 37 : 1994	%	13
Impact strength (CHARPY) *Unnotched specimens*		ISO 179/1eU: 1994	kJ/m^2	41

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THERMAL AND SPECIFIC PROPERTIES (1)			
Glass temperature transition (1)	ISO 11359 : 2002	°C	220
Heat deflection temperature	ISO 75 : 2004	°C	190 - 195
Coefficient of linear thermal expansion ($C_L TE$) (+20 to +130 °C)	ISO 11359 : 1999	10^{-6} K^{-1}	120
Linear shrinkage in aluminium mould (1)	during demoulding	mm/m	4
Linear shrinkage in aluminium mould (1)	2 hr at 130 °C	mm/m	8
Linear shrinkage in silicone mould (1)	during demoulding	mm/m	0.5
Linear shrinkage in silicone mould (1)	2 hr at 130 °C	mm/m	4.5
Maximal casting thickness		mm	5
Demoulding time at 70 °C	PX 234 HT PX 234 HT LS	min	60 90

(1) Average values obtained on standard specimens/Hardening 1 hr at 70 °C + 2 hr at 130 °C

PROCESSING (vacuum casting machine)

***Important*:** *When storing the product at a temperature under 15 °C Isocyanate can crystallize. It is recommended to heat up the product 2h at 70 °C until complete decrystallization then return to room temperature.*

- *Both parts have to be processed at a temperature above +18 °C and below 25 °C.*
  (Before use, do not preheat the two separated parts higher than room temperature)
- *Place Isocyanate in the upper bowl of the machine.*
- *Mix at least 1 minute.*
- *Cast in a pre-heated polyaddition silicone mould (ESSIL 291) at 70 °C .*
- *Allow to cure 60 minutes at 70 °C. 90 minutes for PX 234 HT LS.*
  NOTA : If the thickness of the parts are ≤ at 3 mm, demoulding time has to be doubled.
- *Demoulding is possible under heat.*
- *Carry out the following thermal treatment: 60 min at 100 °C + 120 min at 130 °C and 60 min at 160 °C.*
- *Always place the part on stand while curing.*

TINTING PROCESS

The maximal advised amount of pigment by weight is about 1% of the Polyol mass. The pigment (e.g. CP colour from Axson) must be moisture free and carefully blended with Polyol before mixing with Isocyanate.

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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STORAGE CONDITIONS

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

PACKAGING

PX 234 HT ISOCYANATE	***PX 234 HT or 234 HT LS POLYOL***
6 x 1,0 kg	*3 x 1,0 kg*

GUARANTEE

The information of our technical data sheet are based on our present knowledge and the result of tests conducted 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 refuse any guarantee about 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 guarantee conditions are regulated by our general sale conditions.

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