

APPLICATIONS

Casting in silicone molds: transparent prototype parts until a 2 inch (50 mm) thickness: crystal glass like parts, fashion, jewellery stained glass repair, art and decoration parts.

PROPERTIES

- *High transparency (water clear)*
- *Easy polishing*
- *High reproduction accuracy*
- *Good UV resistance*
- *Easy processing*
- *Available in quick version : PX 522 HT*

PHYSICAL PROPERTIES				
Composition		ISOCYANATE PX 521HT A	POLYOL PX 521HT B	MIXING
Mixing ratio by weight		100	55	
Aspect		liquid	liquid	liquid
Color		transparent	bluish	transparent
Viscosity at 25°C (mPa.s)	Brookfield LVT	200	1,100	500
Density at 25°C	ISO 1675 : 1985	1.07	1.05	-
Density of the cured product at 23°C	ISO 2781 : 1988	-	-	1.06
Pot life at 25°C on 155 g (min)	-			20

PROCESSING CONDITIONS

The PX 521HT can be use either manually or in a vacuum casting machine.

- **For manual utilization : vacuum chamber needed**
- *Heat the mold at 70°C.*
- *Heat both parts at 20°C in case of storage at a lower temperature.*
- *Mix manually for 2 minutes.*
- *Degas under vacuum for 5 to 10 minutes.*
- *Pour in the mold.*
- *After casting, avoid to degas.*
- *Place in an oven at 70°C.*
 - *1 hour for 50 mm thickness*
 - *2 hours for 10 mm thickness*
 - *3 hours for 2 mm thickness*
- **Vacuum casting machine utilisation :**
- *Heat the mold at 70°C.*
- *Heat both parts at 20°C in case of storage at a lower temperature.*
- *Weigh part A in the upper cup (do not forget to allow for residual cup waste).*
- *Weigh part B in the lower cup (mixing cup).*
- *After degassing for 10 minutes under vacuum pour part A in part B and mix for **2 minutes**.*
- *Cast in the silicone mold, previously heated at 70°C.*
- *Put in an oven at 70°C.*
- *Demold as well as manual casting.*

MECHANICAL PROPERTIES AT 23°C			
Flexural modulus of elasticity	ISO 178 : 2001	PSI/(MPa)	305,000/(2,100)
Flexural strength	ISO 178 : 2001	PSI/(MPa)	15,000/(105)
Tensile modulus of elasticity	ISO 527 : 1993	PSI/(MPa)	392,000/(2,700)
Tensile strength	ISO 527 : 1993	PSI/(MPa)	10,900/(75)
Elongation at break in tension	ISO 527 : 1993	%	9
Charpy impact strength	ISO 179/1eU : 1994	Ft-lb/in ² /(Kj/m ²)	13/(27)
Izod impact strength - Notched	ASTM D256-05	Ft.Lb.f/in ² /(Kj/m ²)	3/(6)
Izod impact strength - Unnotched	ASTM D256-05	Ft.Lb.f/in ² /(Kj/m ²)	8/(17)
Hardness	ISO 868 : 1985	Shore D1	87

THERMAL AND SPECIFIC PROPERTIES ⁽¹⁾			
Glass transition temperature (Tg)	TMA METTLER	°F/(°C)	232/(110)
Maximal casting thickness		in/(mm)	2/(50)
Time before demoulding at 70°C (10mm)		min.	120
Heat deflection temperature (HDT 1.8 MPa)	ISO 75 Ae : 1993	°F/(°C)	212/(100)
Shrinkage		%	0.16% ⁽²⁾

(1) Average values obtained on standardized specimens/Hardening 4 hrs at 80°C + 16 hrs at 100°C

(2) 12 inch X 1 inch X 3/16 inch bar cast into 70°C silicone mold, postcured per (1)

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 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.

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.