

1. Description

1. PX23-HT used by casting in silicone molds for the production of prototype parts and mock-ups with mechanical properties close to those of thermoplastics.
2. PX223-HT low viscosity for easy casting; Good impact and flexural resistance; Temperature resistance above 120°C; Low aggressiveness against silicon molds. Also suited for use in the parts which are produced in small lot.

2. Basic properties

Item		Value	Remarks
Commodity		PX223-HT	
Appearance	A Comp.	Black	Polyol
	B Comp.	Colorless	Isocyanate
Color of article		Black	
Viscosity (mPa.s,25°C)	A Comp.	300	
	B Comp.	1100	Brookfield-LVT
Density of parts before mixing at 25°C	A Comp.	1.12	
	B Comp.	1.17	Special gravity cup
Density of cured mixing at 23°C		1.14	Standard hydrometer
Mixing ratio	A:B	80:100	Parts by weight
Pot life	(25°C)	8 min	Resin 100 g
Time before demolding	70°C	120 min	
Hardness	Shord D	80	Wallace hardness tester
Tensile strength	MPa	60	ISO 527:1993
Elongation	MPa	80	ISO 527:1993

Item		Value	Remarks
Flexural modulus of elasticity	MPa	2300	ISO 527:2001
Charpy impact resistance	KJ/m2	>60	ISO 179/2D:1994
Linear shrinkage	%	4	Mm/m
Coefficient of inear thermal expansion	10-6K-1	115	T.M.A Metter
Maximal casting thickness	mm	5-10	
Glass transition temperature (Tg)	°C	>120	T.M.A Metter

3. Vaccum Casting Process

1. Pre-degassing

Remix POLYOL before each weighing. Degas each part before use.

2. Temperature of resin

Keep a temperature of 30~40°C for both A and B component during casting. The higher, the liquid temperature, the shorter is the pot life and the lower, the liquid temperature, the longer is the pot life. Extremely too low temperatures may cause insufficient mixing and improper curing.

3. Mold temperature

Keep the temperature of silicone mold to 60~70°C in advance. Too low mold temperatures may cause improper curing to result in lower physical properties. Mold temperatures should be controlled precisely as they affect the dimensional accuracy of the finished article.

4. Casting

Mix for approximately 45 seconds, Cast in a mold pre-heated at 70°C minimum.

5. Curing condition

Alow ot cure 45 ot 70 minutes at 70°C before demolding. 1hr at 100°C +2hr at 110°C.

6.Both parts have to be processed at a temperature above 18°C

4. Precautions in handling

1. As both A and B components are sensitive to water, don't allow water get into material or don't allow moisture in the air come into prolonged contact with the material. Close container tight after use.
2. Penetration of water into Acomponent may lead to generation of much air bubbles in the cured product. If this should happened, we recommend to heat Acomponent to 60°C-70°C and degas it under vacuum for about 30 minutes.
3. B component in part or in whole may freeze when it is stored for longer period of time at temperatures below 5°C. Frozen material can be used after melting. Warm up container to 60~70°C for 1~2 hours and use the material after stirring it well.
4. When B component is stored in a frozen state, it deteriorates more quickly on age than a liquid material. We recommend ot melt it completely and store at 20~25 °C.

5. Precautions in safety and hygiene

1. Ensure good ventilation
2. Wear gloves. Take care that hands or skin are not coming in direct contact with raw materials. In case of contact, wash with soap and water immediately. It may irritate hands or skin if they are left in contact with raw materials for longer period of time.
3. Wear safety glasses. If raw materials get into eyes, rinse with flowing water for 15 minutes and call a doctor.
4. Install duct for vacuum pump to ensure that air is exhausted at the outside of the work shop.

6. Storage conditions

Shelf life is 12 months in a dry place and in the original unopened containers at a temperature between 15 and 25°C. Any opened container must be tightly closed under a dry gas blanket.

7. Delivery for

A Component: 0.8kg tin can.

B Component: 1kg tin can.