

## DPI PX521

### 1. Description

DPI PX521 Use by casting into silicone molds for transparent , prototype parts up to a 25mm thickness.

DPI PX521 is a High transparency, easy processing ,easy to polish ,have Good UV resistance vacuum casting polyurethane.

### 2. Basic Properties

Item		Value	Remarks
commodity		DPI PX521	
Appearance	A Comp.	bluish	POLYOL
	B Comp.	colorless	ISOCYANATE
Color of Article		colorless	
Viscosity (mPa.s,25°C)	A Comp.	1100	
	B Comp.	300	BROOKFIELD-LVT
	mixing	500	
Density of parts before mixing at 25°C	A Comp.	1.06	
	B Comp.	1.08	Specific Gravity Cup
Density of cured mixing at 23°C		1.07	Standard Hydrometer
Mixing Ratio	A:B	55:100	Parts by weight
Pot Life	(25°C)	19-20 Min	Resin 150g
Time before demolding	70°C	120 Min	10mm
Hardness	Shord D	87	Wallace Hardness Tester
Tensile strength	MPa	70	ISO 527:1993
Elongation	MPa	100	ISO 527:2001
Flexural modulus of elasticity	MPa	2100	ISO 527:2001
Charpy impact resistance	KJ/ m <sup>2</sup>	26	ISO 179/2D:1994
Glass Transition Temperature (Tg)	°C	110	T.M.A Metter
Maximal casting thickness	mm	50	
Heat deflection temperature	°C	100	T.M.A Metter

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### 3. Vacuum Casting Process

1). Pre-degassing

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

2). Temperature of resin

If in the low temperature storage, the work will be A and B two liquid heating to 20 °C. 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

Degas under vacuum for 5-10 minutes, Mix for approximately two minutes, cast in a mold pre-heated at 70°C minimum.

5). Curing condition

Allow to cure 120 minutes for 10mm thickness at 70°C before demolding.

### 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 A component may lead to generation of much air bubbles in the cured product. If this should happened, we recommend to heat A component 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 to melt it completely and store at 20~25°C.

### 5. Precautions in Safety and Hygiene

1). ensure good ventilation

2). wear glove. 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 to 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°. Any opened container must be tightly closed under a dry gas blanket.

### 7. Delivery For

A Component: 0.55kg tin can.

B Component: 1kg tin can.