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# PRC 1700

## References

**Polyol** : PRC 1700 P - SH 121000 Isocyanate : PRC 1700/1708 I - SH 000121

## **Definition**

Clear transparent polyurethane resin for vacuum casting.

Suitable for optical pieces prototyping.

Very high UV stability.

Easy to polish and to colour

Suitable with European directive: 2011/65/EC (RoHS)

## Average physical properties of the components

	PRC 1700 Polyol	PRC 1700 / 1708 I	PRC 1700
	SH 121 000	SH 000 121	SH 121 121
Aspect – Color	Liquid transparent	Liquid transparent	Liquid transparent
	Colorless	Colorless	Colorless
Brookfield viscosity LVT (mPa.s) According to MO-051	450	550	500
Density at 25°C According to MO-032	1.08	1.10	1.10

## **Process data**

		PRC 1700 Polyol SH 121 000	PRC 1700 / 1708 I SH 000 121	Mix SH 121 121
Mixing ratio in weight		60	100	
Mixing time at 25°C	(sec.)			90
Pot-life on 160g at 25°C According to MO-062	(min.)			17 - 19
Demoulding time at 70°C According to MO-116	(min.)			120

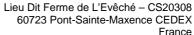
# Average mechanical and thermal properties of the polymer

		Test Method	
Hardness Shore D1 (1)		ISO 868 - 2003	87
Glass transition temperature (1)	(°C)	DSC Perkin Elmer	110
Heat Deflection Temperature (1)	(°C)	ISO 75 Ae:2001	105
Flexural modulus of elasticity (1)	(MPa)	ISO 178 : 2001	2200
Maximal flexural strength (1)	(MPa)	ISO 178 : 2001	80
Tensile modulus of elasticity (1)	(MPa)	ISO 527 : 1993	2350
Elongation at maximal tensile strength (1)	(%)	ISO 527 : 1993	6.5
Maximal tensile strength (1)	(MPa)	ISO 527 : 1993	70
Elongation at break (1)	(%)	ISO 527 : 1993	16
Tensile strength at break (1)	(MPa)	ISO 527 : 1993	62
Charpy impact strength (1)	(kJ.m <sup>-2</sup> )	ISO 179/1D : 1994	90
Refraction index at 20°C		ISO 489 : 1999	1,51
Hazen coloration - 50 mm in thickness		ISO 2211 : 1973	< 30

<sup>(1)</sup> Average values measured on specimens after post curing 2 h at 70°C +16 h at 100°C + 24 h at room temperature

This document can not be, in any case, used as specification data sheet. The values mentioned on this document are based on tests and researches carried on in our laboratories in precise conditions.

It's the responsibility of the user to check the convenience of the product in his own conditions defined and tried by himself. The Synthene Company disclaims all responsibility for any consequence occurred by the use of this product.



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## Safety for using:

Better wear safety clothes and accessories (gloves and glasses).

For more information, read the medical and safety data sheet of the product.

## Process with vacuum casting machine:

Pre-heat polyaddition silicone moulds at 70°C.

Weigh isocyanate part in the upper cup (don't forget the residual product).

Weigh polyol part in the mixing cup.

After 10 min of vacuum, pour the isocyanate part in mixing cup and mix until total clearness of the mixing.(at least 1 min 30 for a process at 25°C).

Pour in the mould.

Put the mould in an oven at 70°C for approximately 2 hours according to the thickness of the part.

### **Process with manual casting:**

Pre-heat polyaddition silicone moulds at 70°C.

Weigh the two parts in a clean mixing cup.

Mix manually until total clearness of the mixing (at least 1 min 30 for a process at 25°C)

Pour the mixing in a second clean cup without scraping the cliffs and bottom of the first cup (to prevent from non-mixing area), mix again with clean spatula.

Degas in a vacuum chamber.

Pour in the mould in one step.

Put the mould in an oven at 70°C for approximately 2 hours according to the thickness of the part.

#### Packaging:

Parcel of: 6 kits (0.6 + 1.0) kg

2 kits (3.0 + 5.0) kg

If any other packaging needed, please consult us.

6 months in original unopened containers and stored between 15 and 25 °C. Storage: