Lieu Dit Ferme de L'Evêché – CS20308
60723 Pont-Sainte-Maxence CEDEX
France
Tél. :03 44 31 72 00 - Tél. international : + 33 3 44 31 72 00
Fax : 01 57 67 44 58 - Fax international : + 33 1 57 67 44 58
E-mail : contact@synthene.com
http://www.synthene.com

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 SH 121 000	PRC 1700 / 1708 I SH 000 121	PRC 1700 SH 121 121
Aspect – Color	Liquid transparent Colorless	Liquid transparent Colorless	Liquid transparent 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 (min.) According to MO-062			**17 - 19**
Demoulding time at 70°C (min.) According to MO-116			**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)	($kJ.m^{-2}$)	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**

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

Lieu Dit Ferme de L'Evêché – CS20308
60723 Pont-Sainte-Maxence CEDEX
France
Tél. :03 44 31 72 00 - Tél. international : + 33 3 44 31 72 00
Fax : 01 57 67 44 58 - Fax international : + 33 1 57 67 44 58
E-mail : contact@synthene.com
http://www.synthene.com

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.

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