

PR 700

Mercury free product, RoHS suitable.

References

Polyol : PR 700 P - ST 109 000
Isocyanate : PR 700/ PR 751/ PRA 794 I - SH 000 401

Definition

Polyurethane resin for vacuum casting.

Mercury free product suitable with European directive: 2011/65/EC, 2002/96/EC, 2000/53/EC and 2000/11/EC.

High thermal resistance (HdT : 130°C).

Easy to cast.

Low aggressivity on silicon moulds.

Good chemical resistance.

Average physical properties of the components

| | PR700 Polyol ST 109000 | PR700 Isocyanate SH 000401 | PR 700 ST 109401 |
|---|---------------------------|---------------------------------|---------------------|
| Aspect – Color | Black liquid | Transparent liquid colorless | Black liquid |
| Viscosity Brookfield LVT (mPa.s) According to MO-051 | 130 | 1200 | 600 |
| Density at 25°C According to MO-032 | 1.13 | 1.15 | 1.14 |

Process data

| | PR700 Polyol ST 109000 | PR700 Isocyanate SH 000401 | Mixing ST 109401 |
|---|---------------------------|-------------------------------|---------------------|
| Mixing ratio by weight | 80 | 100 | |
| Mixing ratio by volume | 81,5 | 100 | |
| Pot life 200g at 25°C (min.) According to MO-062 | | | 6 - 7 |
| Demoulding time at 70°C (min.) According to MO-116 | | | Approx. 45 |

Average mechanical and thermal properties of the solid piece

| | | Test methode | |
|--|-----------------------|-------------------|-----------------|
| Hardness Shore D1 (1) | | ISO 868-2003 | 87 |
| Transition glass (Tg) (1) | (°C) | DSC Perkin Elmer | > 130 |
| Heat deflection temperature (HdT) (1) | (°C) | ISO 75 Ae:2001 | 130 |
| Flexural modulus (1) | (MPa) | ISO 178 : 2001 | 2300 |
| Maximal flexural strength (1) | (MPa) | ISO 178 : 2001 | 80 |
| Tensile modulus of elasticity (1) | (MPa) | ISO 527 : 1993 | 1800 |
| Elongation at break (1) | (%) | ISO 527 : 1993 | 13 |
| Tensile strength (1) | (MPa) | ISO 527 : 1993 | 60 |
| Charpy impact (without slight cut) (1) | (KJ.m ⁻²) | ISO 179/1D : 1994 | 60 |
| Linear shrinkage (3 mm thickness) | (mm/m) | - | 2 |

(1) All results are obtained after curing 1 h at 70°C + 1 h at 100°C + 2 h at 120°C + 24 h at RT

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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 (stir well the polyol part before use).

After 10 min of vacuum, pour isocyanate part in polyol part and mix to reach total and perfect homogeneity (approx 50 to 60 sec.)

Pour in the silicone mould.

Put the mould in an oven at 70°C.

Demoulding is possible after 50 mn according to thickness, then post curing is necessary to reach maximal characteristics.

Packaging :

Parcel of 2 kits of (4,0 + 5,0) kg

Storage : 18 months in original and unopened cans stored between 15 and 25 °C.

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