Lieu Dit Ferme de L'Evêché – BP20308
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PR 740

References:

Polyol : PR 740 - P ST740000
Isocyanate : PR 7 series – I ST000401

Description:

Vacuum casting polyurethane resin designed for the production of prototyping parts that simulate PP or PEHD.
Colorable material. Good chemical resistance. Low aggressiveness on silicone molds.
Mercury free material in accordance to the European Directives: 2011/65/UE (RoHS), 2002/96/EC, 2000/53/EC, 2000/11/EC.

Average physical properties of the components:

	PR740-P ST740000	PR7 SERIES-I ST000401	PR740
Aspect – Color	**Amber liquid**	**Colorless liquid**	**Amber solid**
Brookfield LVT Viscosity (mPa.s) According to MO-051	**750**	**1200**	**1000**
Density at 25°C According to MO-032	**1.07**	**1.16**	**1.11**

Process properties :

Mixing ratio by weight	**120**	**100**	
Mixing time at 25°C (sec.)			**60**
Pot life on 100g at 25°C (min.) According to MO-062			**7' 30"**
Demolding time at 70°C on 3 mm (min.) According to MO-116			**40**

Note : According to the batch of the material, and overtime, the shades of the material can be lighter or darker. This doesn't have any impact on the final properties of the material.

Average physical and thermal properties of the polymer:

Average data obtained after 1 h at 70°C and 24 h at room temperature

		Test method	
Shore D1 Hardness		**ISO 868-2003**	**70**
Heat deflection temperature (HdT)	(°C)	**ISO 75-2 : 2013**	**83**
Flexural modulus	(MPa)	**ISO178 : 2001**	**580**
Maximum flexural stress	(MPa)	**ISO178 : 2001**	**24**
Tensile modulus	(MPa)	**ISO 527 : 1993**	**650**
Maximum tensile stress	(MPa)	**ISO 527 : 1993**	**>20**
Elongation at maximum stress	(%)	**ISO 527 : 1993**	**>50**
Charpy impact resistance (notched test specimen)	($kJ.m^{-2}$)	**ISO 179-1/1eA: 2010**	**24**

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Average data obtained after 4 h at 70°C + 24 h at room temperature

		Test method	
Shore D1 Hardness		**ISO 868-2003**	**70**
Heat deflection temperature (HdT)	(°C)	**ISO 75-2 : 2013**	**96**
Flexural modulus	(MPa)	**ISO178 : 2001**	**590**
Maximum flexural stress	(MPa)	**ISO178 : 2001**	**25**
Tensile modulus	(MPa)	**ISO 527 : 1993**	**650**
Maximum tensile stress	(MPa)	**ISO 527 : 1993**	**>20**
Elongation at maximum stress	(%)	**ISO 527 : 1993**	**>50**
Charpy impact resistance (notched test specimen)	($kJ.m^{-2}$)	**ISO 179-1/1eA: 2010**	**21**

Hygiene and security for using:

We advise to wear safety clothes and accessories (gloves, glasses). Work in a ventilated room. For more information, please read the materials security datasheet.

Process with vacuum casting machine:

Pre-heat polyaddition silicone molds at 70°C.
Shake vigorously the polyol component before use.
Weigh the isocyanate in the upper cup (without forgetting to take into account the casting residues on the cup's walls and bottom)
Weigh the polyol in the lower cup (mixing cup).
After 10 minutes of degassing time, pour the isocyanate in the polyol and mix for at least 1 minute (when the components' temperature is 25°C).
Cast in the mold, then place it in the oven at 70°C.
According to the thickness of the part, demolding is possible after 40 minutes.

Manual process:

Pre-heat the polyaddition silicone molds at 70°C.
Weigh the polyol and isocyanate in a clean mixing cup.
Mix well for 1 minute, taking care of the good homogeneity of the material
Pour the mix in a second clean cup, without trying to get the residues back from the walls and bottom of the cup (to avoid problems of bad mix), then mix again with a clean spatula for about 30 seconds.
Place this cup under vacuum to degas the mix.
Cast in one go, to avoid the incorporation of air in the mold. If possible, cast from a low point.
Place in the oven at 70°C.
According to the thickness of the part, demolding is possible after 40 minutes.

Packaging:

- Box of 6 X (1.2 + 1,0) kg

Storage:

18 months in its original and unopened packaging, stored between 15 and 25°C.