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PR777

References:

Polyol: PR777-POLYOL-ST777000 Isocyanate: PR7SERIES-ISO-ST000401 Fiber glass filler: SynFill G

Definition:

→ PR777:

Polyurethane resin for the production of PP / PE / HDPE-like parts in vacuum casting.

Good flowability, low aggressiveness to silicone moulds.

Colorable material.

REACH compatible material meeting the requirements of the **European Directives:**

- 2011/65/EU 2015/863 2017/2102/EU (RoHS 1 and 2)
- 2002/96/EC (WEEE)
- 2000/53/EC (ELVs)
- 2000/11/EC

→ PR777 + SynFill G:

- « SynFill G » fiberglass filler allows one to increase the rigidity of the parts and some mechanical and thermal characteristics.
- Three filler rates are available in order to guarantee the best compromise between the flowability and the product performances.
- High modulus of elasticity up to 2200 MPa in traction with 25% of filler.
- Improvement of the maximum stresses in traction and flexion.

Average physical properties of the components:

	PR777 Polyol ST 777 000	PR7 Series Iso ST 000 401	Mix ST 777 401	Mix +15% SynFill G	Mix + 20% SynFill G	Mix +25% SynFill G
Aspect - Colour	Amber liquid	Transparent liquid	Translucent liquid Milky solid	Translucent liquid Milky solid	Translucent liquid Milky solid	Translucent liquid Milky solid
Brookfield LVT Viscosity (mPa.s) According to MO-051	230	1200	700	800	940	1100
Density at 25°C According to MO-032	1,10	1,16	1,13	1,22	1,24	1,27

Application properties:

Optimal curing time

	PR777 Polyol ST 777 000	PR7 series Iso ST 000 401	Mix ST 777 401	Mix +15% SynFill G	Mix + 20% SynFill G	Mix +25% SynFill G
Mixing ratio by weight	100	100	-	30	40	50
Mixing ratio By volume	100	95	-	-	-	-
Potlife on 200g at 25°C According to MO-062			10 min.	10 min.	10 min.	10 min.
Demoulding time at 70°C (min.) According to MO-116			45 min.	45 min.	45 min.	45 min.
Minimum curing time	2h at 70°C + 24h at room temperature					
Potlife on 200g at 25°C According to MO-062 Demoulding time at 70°C (min.) According to MO-116			45 min.	45 min.	-	

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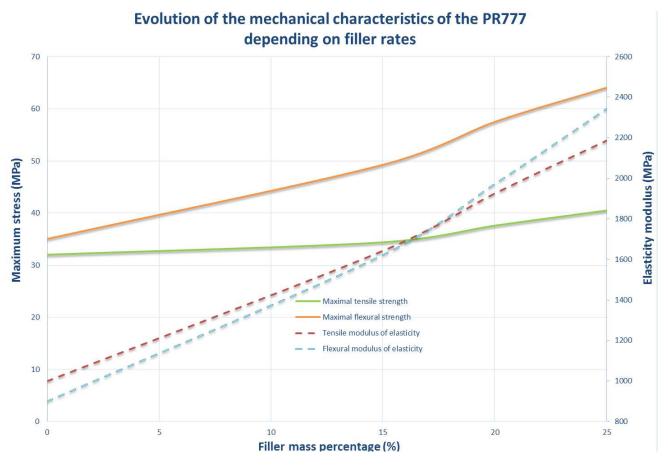
2h at 70° C + 2h at 100° C + 24h at room temperature

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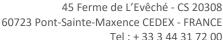


Average mechanical and thermal properties of the cured material:

Average values obtained after post-curing: 2h at 70°C + 24h at room temperature

_	Test standard	Unit	Values without filler	15% SynFill G	20% SynFill G	25% SynFill G
Hardness	ISO 868 : 2003	Shore D1	75	78	79	80
Flexural modulus	ISO 178 : 2011	MPa	900	1600	2000	2300
Maximum flexural strength	ISO 178 : 2011	MPa	35	50	58	64
Tensile modulus of elasticity	ISO 527-1 : 2012	MPa	1000	1600	1900	2200
Elongation at break	ISO 527-1 : 2012	%	35	25	11	7
Maximum tensile strength	ISO 527-1 : 2012	MPa	34	34	38	40
Charpy impact resistance	ISO 179-1 : 2010 unnotched-1eU ^b	KJ/m²	60	37	28	27
Heat deflection temperature (HDT)	ISO 75-2 : 2013 Method A	°C	-	76	82	86
	ISO 75-2 : 2013 Method B	°C	94	-	-	-
Transition glass Temperature (Tg)	ISO 6721-10 : 2015	°C	> 120	-	-	-

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Hygiene and safety instructions for using:

Wearing appropriate safety clothes and accessories (gloves, glasses and mask) is advised.

Work in a ventilated room.

For more information, please read the Medical and Safety Data Sheet of the material.

Application process with vacuum casting machine:

- 1. Pre-heat the polyaddition silicone mould at 70°C
- 2. Weigh the separated components (Upper cup: Polyol / Lower cup: Iso), with addition of the necessary residual quantity in the upper cup. If Synfill G filler is added, weigh the needed quantity in the lower cup. Then, put the cups and the mould inside the vacuum casting machine.
- 3. Degas for 10 minutes, with agitation in the lower cup (Iso).
- 4. Stop the agitation and pour the content of the upper cup (Polyol) into the lower cup (Iso).
- 5. Start the agitation and mix for at least 1 minute.
- 6. Release the vacuum in the chamber to a pressure of about 100 hPa (0,1bar).
- 7. Cast the mixture into the silicone mould until complete filling.
- 8. Break the vacuum back to atmospheric pressure.
- 9. Place mould in an oven at 70°C.
- 10. Demoulding is possible after:
 - 45 minutes at 70°C, depending on the thickness of the part

In order to obtain the mechanical properties of the material, it is necessary to realise a complete curing, demoulding time included, of:

- Minimum curing time: 2h at 70°C + + 24 h at room temperature
- Optimal curing time: 2h at 70°C + 2h at 100°C + 24 h at room temperature

Packaging:

PR777:

- Box of 2 kits of (5.0 kg polyol + 5.0 kg isocyanate) = 20 kg
- Box of 6 kits of (1,0 kg polyol + 1,0 kg isocyanate) = 12kg

Synfill G:

- Box of 30 kg
- Pail of 10 kg

Storage:

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

Comment:

The cured product colour may vary depending on its exposure to UV, without changing the other characteristics.

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