45 Ferme de L'Evêché - CS 20308
60723 Pont-Sainte-Maxence CEDEX - FRANCE
Tel : + 33 3 44 31 72 00
Fax : + 33 1 57 67 44 58
E-mail : contact@synthene.com
http://www.synthene.com

PR752

References :

Polyol: PR752-POLYOL-ST152000 **Isocyanate: PR7SERIES-ISO-ST000401** **Fiber flass filler: SynFill G-PF0400**

Definition :

➔ **PR752 :**

Polyurethane resin for the production of vacuum casted ABS or PEEK countertypes, with a requirement for high thermal resistance.
Good flowability, low aggressiveness to silicone moulds.
Good chemical resistance.
REACH compatible material meeting the requirements of the Eureopean Directives:

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

➔ **PR752 + SynFill G :**

- « **SynFill G** » fiberglass filler allows one to increase the rigidity of the parts and some mechanical and thermal properties.
- 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 5400 MPa in traction with 25% of filler.
- Improvement of the maximum stresses in traction and flexion.

Average physical properties of the components :

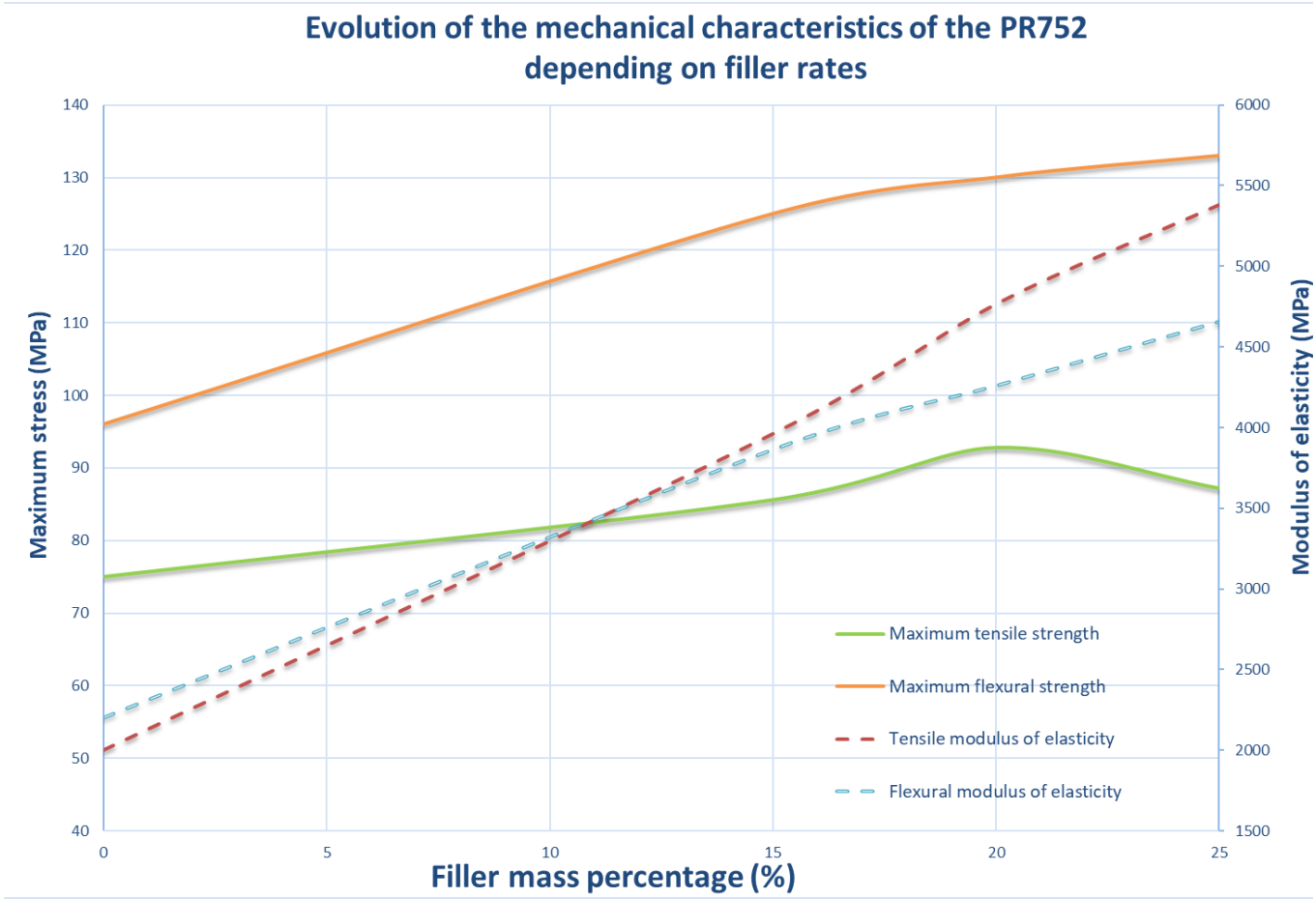
	PR752 Polyol ST 152 000	PR 7 Series Iso ST 000 401	PR 752 Mix ST 152 401	Mix + 15% SynFill G	Mix + 20% SynFill G	Mix +25% SynFill G
Aspect - Colour	Amber liquid	Colourless liquid	Amber liquid Amber solid	Amber liquid Amber solid	Amber liquid Amber solid	Amber liquid Amber solid
Brookfield LVT viscosity (mPa.s) According to MO-051	600	1200	1000	2300	2500	2700
Density at 25°C According to MO-032	1,15	1,16	1,16	1,33	1,38	1,42

Application properties :

	PR752 Polyol ST 152 000	PR 7 Series Iso ST 000 401	PR752 Mix ST 152 401	Mix + 15% SynFill G	Mix + 20% SynFill G	Mix + 25% SynFill G
Mixing ratio by weight	60	100		24	32	40
Potlife on 200 g at 25°C According to MO-062			6-8 min.	6-8 min.	6-8 min.	7-8 min.
Demoulding time at 70°C According to MO-116			50 min.	50 min.	50 min.	50 min.
Optimal curing time	1h at 70°C + 2h at 130 °C + 24h at room temperature					

The values mentioned on this document are based on tests and researches carried out in SYNTHENE's laboratory, in precise conditions. This document cannot be, in any case, considered as a specification data sheet. It is the responsibility of the users to check the suitability of the product in their own conditions, defined and tried by themselves. Synthene company disclaims any responsibility for any consequence occurred by the use of this product.

45 Ferme de L'Evêché - CS 20308
60723 Pont-Sainte-Maxence CEDEX - FRANCE
Tel : + 33 3 44 31 72 00
Fax : + 33 1 57 67 44 58
E-mail : contact@synthene.com
http://www.synthene.com



Average mechanical and thermal properties of the cured material :

- **Average values after curing: 1h at 70°C + 2h at 130°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	87	87	88	89
Flexural modulus	ISO 178 : 2011	MPa	2200	3850	4250	4650
Maximum flexural strength	ISO 178 : 2011	MPa	96	125	130	133
Tensile modulus	ISO 527-1 : 2012	MPa	2300	3950	4750	5400
Elongation at break	ISO 527-1 : 2012	%	13	4	3.5	3
Maximum tensile strength	ISO 527-1 : 2012	MPa	75	85	93	87
Charpy impact resistance	ISO 179-1 : 2010 unnotched-1fU^{c}	KJ/m^2	30	23	21	20
Heat Deflection temperature (HDT)	ISO 75-2 : 2013 method A	°C	-	157	159	160
	ISO 75-2 : 2013 method B	°C	150	169	177	177

The values mentioned on this document are based on tests and researches carried out in SYNTHENE's laboratory, in precise conditions. This document cannot be, in any case, considered as a specification data sheet. It is the responsibility of the users to check the suitability of the product in their own conditions, defined and tried by themselves. Synthene company disclaims any responsibility for any consequence occurred by the use of this product.

45 Ferme de L'Evêché - CS 20308
60723 Pont-Sainte-Maxence CEDEX - FRANCE
Tel : + 33 3 44 31 72 00
Fax : + 33 1 57 67 44 58
E-mail : contact@synthene.com
http://www.synthene.com

Hygiene and safety 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 approximately 1 minute.
6. Release the vacuum in the chamber to a pressure of about 100 hPa (0.1 bar).
7. Cast the mixture into the silicone mould until complete filling.
8. Break the vacuum back to atmospheric pressure.
9. Place the mould in an oven at 70°C.
10. Demoulding is possible after :
    - 40 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 :

- Optimal curing time : 1h at 70°C + 2h at 130°C + 24h at room temperature.

Packaging :

PR752 :

- Box of 2 kits of (3,0kg polyol + 5,0kg isocyanate) = 16kg

Synfill G :

- Box of 30 kg
- Pail of 10 kg

Storage :

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

The values mentioned on this document are based on tests and researches carried out in SYNTHENE's laboratory, in precise conditions. This document cannot be, in any case, considered as a specification data sheet. It is the responsibility of the users to check the suitability of the product in their own conditions, defined and tried by themselves. Synthene company disclaims any responsibility for any consequence occurred by the use of this product.