

HPR 65

References :

Polyol : SL065 000
Isocyanate : SL000 065

Definition :

65 Shore D unfilled polyurethane material, dedicated to the realization of moulds and small or big sized technical parts.

This product can be used at room temperature but requires a post-curing to reach its full mechanical properties.

MOCA-free product, complying with the requirements of the European Directives :
2011/65/EU (RoHS), 2002/96/EC, 2000/53/EC, 2000/11/EC.

Average physical properties of the components :

	SL065 000 Polyol	SL000 065 Isocyanate	SL065 065 Mix
Aspect – Colour	Light to dark amber transparent liquid	Colorless transparent liquid	Amber solid
BROOKFIELD viscosity LVT (mPa.s) According to MO-051	650	1200	
Density at 23°C According to MO-032	1.09	1.15	1.12

Application properties :

The polyol component has to be re-homogenized before using

Mixing ratio by weight	100	74	
Mixing ratio by volume	100	70	
Potlife on 174 g at 25°C (min.) According to MO-062			13
Demoulding time at 25°C (h)			8
Demoulding time at 70°C (h) (after gellation)			2

Average mechanical and properties of the cured material :

- Average data obtained after stabilization : 2h at 70°C + 24h at room temperature**

	Standard	Data
Shore D1 Hardness	ISO 868 : 2003	65
Flexural modulus (MPa)	ISO 178 : 2011	450
Maximum flexural strength (MPa)	ISO 178 : 2011	19
Tensile modulus (MPa)	ISO 527 : 2012	420
Elongation at break (%)	ISO 527 : 2012	36
Maximum tensile strength (MPa)	ISO 527 : 2012	18
Tensile yield point elongation (%)	ISO 527 : 2012	14
Tensile yield point strength (MPa)	ISO 527 : 2012	5
Impact resistance (notched - 1eA ^b position) (kJ.m ⁻²)	ISO 179 : 2010	20
Abrasion resistance (TABER 1000 Tr/H22) (mg/100U)	ISO 5470	43
Linear shrinkage (3 mm thickness) (mm/m)	-	6.5
Working temperature (°C)	-	- 20 /+85

The values mentioned on this document are based on tests and researches carried out in our laboratories, in precise conditions. This document cannot be, in any case, considered as a specification data sheet. It is the responsibility of the user to check the convenience of the product in his own conditions, defined and tried by himself.

SYNTHENE company disclaims any responsibility for any consequence occurred by the use of this product.

HPR 65/TDS/EN/ Version 1 – 22/10/2019

• **Average data obtained after stabilization : 7 days at room temperature**

		Standard	Data
Shore D1 Hardness		ISO 868 : 2003	65
Flexural modulus	(MPa)	ISO 178 : 2011	500
Maximum flexural strength	(MPa)	ISO 178 : 2011	20
Tensile modulus	(MPa)	ISO 527 : 2012	530
Elongation at break	(%)	ISO 527 : 2012	45
Maximum tensile strength	(MPa)	ISO 527 : 2012	17
Tensile yield point elongation	(%)	ISO 527 : 2012	16
Tensile yield point strength	(MPa)	ISO 527 : 2012	4
Impact resistance (notched - 1eA^b position)	(kJ.m ⁻²)	ISO 179 : 2010	21
Linear shrinkage (3 mm thickness)	(mm/m)	-	3
Abrasion resistance (TABER 1000 Tr/H22)	(mg/100U)	ISO 5470	57

Hygiene and safety for using :

Wearing appropriate safety clothes and accessories (gloves, glasses) is advised.
Work in a ventilated room.
For more information, please read the Medical and Safety Data Sheet of the material.

Process with manual casting :

***Both components have to be homogeneous before using.
Depending on the storage conditions, a crystallization can appear into the polyol component.
In this case, put at the oven at 40 – 50°C until the product is homogeneous and clear again.***

In order to obtain the best possible result, the support (part or mould) must be completely free of any trace of moisture.

Make sure that a proper release agent is used.

After weighing both components, mix with a spatula or with a motorized mixer with low rotational speed.

In order to obtain a completely degased material, it may be necessary to put it under vacuum before casting. Let the product polymerize at room temperature to help the self-degasification of the product.

For the post-curing, it is recommended to wait until the product is gelled.

Application process with vacuum casting machine :

***Both components have to be homogeneous before using.
Depending on the storage conditions, a crystallization can appear into the polyol component.
In this case, put at the oven at 40 – 50°C until the product is homogeneous and clear again***

Pre-heat the polyaddition silicone moulds at 70°C.

In order to obtain the best possible result, the support (part or mould) must be completely free of any trace of moisture.

Make sure that a proper release agent is used.

Re-homogenize the polyol component before using.

Weigh the isocyanate component in the upper cup (without forgetting the casting residual quantity).

Weigh the polyol component in the lower cup (mixing cup).

After 10 minutes of vacuum, pour the isocyanate component into the polyol component and mix at least 2 minutes for products at a 23 °C temperature.

Cast in the mould and place in an oven at 70 °C.

Demoulding is possible after 2 hours at 70°C (depending on the thickness of the part). It is recommended to cool down the part with pressurized air before demoulding. In case of slight distortion, place the part back in the oven at 70°C so it can get its initial shape again.

Packaging :

Parcel of 6 x (1+0,74) kg

Parcel of 2 x (5+3,7) kg

Storage :

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

Once the packaging is opened, it must be closed back tightly, after each use, and kept in a moisture-free environment.