

## PR 777

### References :

**Polyol** : PR 777 Polyol - ST 777000  
**Isocyanate** : PR 7SERIES Isocyanate - ST 000401

### Definition :

Polyurethane casting resin for prototyping parts similar to PP or HDPE.  
Colorable product\*. Good thermal properties. Low aggressiveness to silicone moulds.  
Mercury free product in accordance with the European Directives : 2011/65/UE (RoHS), 2002/96/EC, 2000/53/EC, 2000/11/EC.

### Average physical properties of the components :

|   | ST 777000<br>Polyol | ST 000401<br>Isocyanate | PR 777<br>Mix |
|---|---------------------|-------------------------|---------------|
| Aspect – Colour   | Amber liquid        | Translucent liquid      | Whitish solid |
| Brookfield viscosity LVT (mPa.s)<br>According to MO-051 | 230                 | 1200                    |               |
| Density at 25°C<br>According to MO-032                  | 1.1                 | 1.16                    | 1.13          |

### Application properties :

|   |     |     |    |
|---|-----|-----|----|
| Mixing ratio by weight                                      | 100 | 100 |    |
| Minimum mixing time at 25°C (sec.)                          |     |     | 60 |
| Potlife on 100g at 25°C (min.)<br>According to MO-062       |     |     | 10 |
| Demoulding time at 70°C on 3mm(min.)<br>According to MO-116 |     |     | 45 |

### Average mechanical and thermal properties of the cured material :

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

|                                   |                       | Standard                             | Data |
|-----------------------------------|-----------------------|--------------------------------------|------|
| Hardness Shore D1                 |                       | ISO 868-2003                         | 75   |
| Heat Deflection Temperature (HdT) | (°C)                  | ISO 75-2 : 2013                      | 94   |
| Glass transition temperature (Tg) | (°C)                  | ISO 6721-10 : 2015                   | >120 |
| Flexural modulus                  | (MPa)                 | ISO 178 : 2001                       | 900  |
| Maximum flexural strength         | (MPa)                 | ISO 178 : 2001                       | 35   |
| Tensile modulus                   | (MPa)                 | ISO 527 : 1993                       | 1000 |
| Maximum tensile stress            | (MPa)                 | ISO 527 : 1993                       | 32   |
| Elongation at break               | (%)                   | ISO 527 : 1993                       | 35   |
| Maximum stress at break           | (MPa)                 | ISO 527 : 1993                       | 31.6 |
| Impact resistance – Charpy        | (kJ.m <sup>-2</sup> ) | ISO 179-1/1eU <sup>b</sup> :<br>2010 | 60   |

*The values mentioned on this document are based on tests and researches carried out in our laboratories, in precise conditions.  
This document cannot, in any case, be used as a specification data sheet.  
It is the responsibility of the user to check the convenience of this product in his own conditions, defined and tried by himself.  
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- Average data obtained after stabilization : 2h at 70°C + 2h at 100°C + 24h at room temperature

|                                   |                       | Standard                             | Data |
|-----------------------------------|-----------------------|--------------------------------------|------|
| Heat Deflection Temperature (HdT) | (°C)                  | ISO 75-2: 2013                       | 110  |
| Glass transition temperature (Tg) | (°C)                  | ISO 6721-10 : 2015                   | >130 |
| Flexural modulus                  | (MPa)                 | ISO 178 : 2001                       | 930  |
| Maximum flexural strength         | (MPa)                 | ISO 178 : 2001                       | 36   |
| Impact resistance – Charpy        | (kJ.m <sup>-2</sup> ) | ISO 179-1/1eU <sup>b</sup> :<br>2010 | 91   |

#### **Hygiene and safety instructions 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.

#### **Application process with vacuum casting machine :**

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

Rehomogenize the polyol component before use.

Weight the isocyanate component in the upper cup (without forgetting the casting residues).

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

After 10 minutes of vacuum, pour the isocyanate component into the polyol component and mix until total homogeneity of the mixture (approximately 1 min for a product temperature of 25°C).

Cast in the silicone mould.

Place in an oven at 70°C.

Demoulding possible after approximately 45 min at 70°C.

#### **Application process with hand casting :**

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

Rehomogenize the polyol component before use.

Weight the polyol and the isocyanate components in a clean mixing cup.

Duly mix the two components, making sure that the mix is homogeneous (approximately 1 min.).

Pour the mix in a second clean cup without trying to get the residues back from the first cup walls, neither scrapping the bottom of the cup (in order to avoid problems linked to bad mixing), mix again with a clean spatula for approximately 30 seconds.

Use a vacuum pump to degas the second cup.

Cast in the mould at once to avoid the incorporation of air in the mould while casting (if possible, cast from a low point).

Place in an oven at 70°C.

Demoulding possible after approximately 45 min at 70°C.

#### **Packaging :**

- Parcel of (6 x 1.0 + 6 x 1.0) kg
- Parcel of (2 x 5.0 + 2 x 5.0) kg

For any other packaging, please consult us.

#### **Storage :**

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

#### **\*Observation :**

The coloration of the final product can vary depending on its exposure to UV without altering its properties.

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