

# Polycraft FC100 (white)



## Fast Cast Polyurethane Resin

Revision Date: 20/08/24

<b>1A : 1B</b>	<b>2-2.15 Min</b>	<b>20 Min</b>	<b>White</b>	<b>70D</b>	 <b>25°C</b>	<b>1kg in weight equals approximately 877ml in volume</b>
Mix Ratio By Weight	Pot Life*	Demould Time‡	Cured Colour	Hardness	Working Temperature	Density

### Overview

Polycraft FastCast 100 (Beige) is an unfilled fast setting polyurethane resin system. Exhibiting excellent flow-ability, short demould times, low shrinkage, good dimensional stability, detail reproduction and good machining qualities. Used for casting master and core models, negatives and general small mouldings. Used in a wide variety of industries from Art, Craft, Engineering, Film & TV, Pattern Making and other general rapid prototyping applications.

### Key Properties

- Low Viscosity
- Excellent Detail Reproduction
- Fast Demould
- Low Shrinkage
- Pigmentable
- Good Impact Strength

### Preparation

- Ensure Parts A & B are in the correct temperature range (25°C)
- Parts A & B must be shaken or stirred separately prior to use.
- Mould or item to be filled must be clean and dry
- Determine if release agent is required
- Ensure Mould compatibility

### Mixing

All mixing and curing should be done in room temperature conditions. Polyurethanes are moisture sensitive; Ideally use plastic mixing containers and plastic mixing sticks to help avoid the introduction of moisture (paper or wood tools may introduce moisture). Take care to weigh out correct amounts of A and B into a mixing container. Reseal material containers immediately to protect against atmospheric moisture contamination. Mix Parts A & B, scraping sides and bottom of mixing container to ensure both components are thoroughly mixed, then pour the mixture into the mould as quickly as possible. Vacuum and/or pressure chambers can be utilised where required however not essential.

### Curing

Castings should be allowed to remain in the mould until thoroughly cured. Demoulding early may lead to deformation of the casting. The use of pre-heated moulds will speed up the demould time. Lower temperatures will slow the cure and extend demould times. Thin castings will take longer to cure than thick castings. Mould material type, shape & size and use of fillers are just some of the other variables that may affect curing times. No two moulds are the same so testing is recommended. Post curing after gellation will result in higher glass transition properties.

### Additives

Colour pigments and fillers may be added to this resin system to change appearance, reduce costs (lightweight fillers), add density, and adjust properties. Testing recommended to ensure compatibility.

Material	A B	Polyol Isocyanate
Colour	A B	Off White Yellow
Viscosity	Polyol Isocyanate Mixed	70 60 50
Density @25°C (g/cm <sup>3</sup> )	Polyol Isocyanate Mixed	1.02 ± 0.05 1.13 ± 0.05 1.10 ± 0.05
Mix Ratio	By Weight	1 : Polyol 1 : Isocyanate
*Potlife (200g @25°C)	mins	2.00 - 2.15
‡ Demould Time (@25°C)	mins	20

Hardness	Shore D	70
Elastic Modulus	Mpa	900
Flexural Strength	MPa	42
Tensile Strength	Mpa	22
Elongation at break	%	10
Impact Resistance	kJ/m <sup>2</sup>	60
Heat Distortion Temp	°C	75

### Storage / Shelflife

These materials have a limited shelflife and should be used as soon as possible. Keep containers tightly sealed when not in use. Consider the use of a dry gas product, which can be sprayed into opened containers to displace moist air before resealing containers to help extend shelf life. Materials should be kept in dark storage between 18°C and 25°C. Under these conditions, shelf-life in the original unopened containers is six months from the date of purchase.

### Health & Safety

Before use please read product labels, technical sheets and safety data sheets and ensure you have adequate understanding of the safety precautions and directions before using the materials.