**PRODUCT: FAST CAST POLYURETHANE CASTING RESIN**

**DESCRIPTION**

Easy Composites’ Fast Cast Polyurethane Casting Resin is a high quality, low viscosity odourless general purpose casting resin for use in model/sculpture casting, pattern making and prototyping/product development.

As the name suggests the resin is very fast curing making it ideal for production runs whilst its low price ensures that even larger castings can be produced cost effectively.

Easy Composites’ Fast Cast system is also one of the lowest viscosity casting resins on the market enabling it to flow freely into the most complex moulds where it with faithfully recreate even the finest surface detail. The ultra-low viscosity also opens up the possibility of casting without the need for degassing the mixed resin before pouring.

Whether you’re new to casting or a seasoned professional you’re sure to get excellent results with this highly regarded resin system.

**Features:**

- Very fast de-mould (20mins!)
- Incredible fine surface detail reproduction
- Ultra-low viscosity
- Easily pigmented
- Supports a high ratio of filler
- Highly heat resistant
- Very machinable

**USES**

In conjunction with a silicone mould, Easy Composites’ Fast Cast resin can be used to produce beautifully detailed sculptures, figurines, RPG character replicas and modifications (Warhammer, Lord of the Rings, White Dwarf etc.) in fact just about anything you would like to accurately reproduce in a durable, heat resistant plastic.

**PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Part A</th>
<th>Part B</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>-</td>
<td>Formulated Polyol</td>
<td>Isocyanate</td>
<td>Polyurethane</td>
</tr>
<tr>
<td>Appearance</td>
<td>-</td>
<td>Off-White Liquid</td>
<td>Amber Liquid</td>
<td>Off-White Liquid</td>
</tr>
<tr>
<td>Viscosity @25 °C</td>
<td>mPa.s.</td>
<td>80-100</td>
<td>45-85</td>
<td>50-100</td>
</tr>
<tr>
<td>Density @25 °C</td>
<td>g/cm³</td>
<td>1.00 - 1.05</td>
<td>1.10 - 1.15</td>
<td>1.05 - 1.10</td>
</tr>
<tr>
<td>Minimum Casting Thickness</td>
<td>mm</td>
<td>-</td>
<td>-</td>
<td>2mm</td>
</tr>
</tbody>
</table>

**POT LIFE & CURE**

<table>
<thead>
<tr>
<th>Pot-Life (200g @ 25°C)</th>
<th>Demould Time 200g (20mm) @ 25°C</th>
<th>Demould Time 100g (5mm) @ 25°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>3min 30 – 4min 30</td>
<td>15-20mins</td>
<td>30-40mins</td>
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</table>
### CURED PROPERTIES

<table>
<thead>
<tr>
<th>Shore Hardness</th>
<th>Linear Shrinkage</th>
<th>Tensile Strength</th>
<th>Elongation at Break</th>
<th>Flexural Strength</th>
<th>Flexural Modulus</th>
<th>HDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(D) (%)</td>
<td>(MPa) (%)</td>
<td>(MPa)</td>
<td>(MPa)</td>
<td>(MPa)</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>75-80</td>
<td>&lt; 0.05</td>
<td>10-15</td>
<td>4-6</td>
<td>30-40</td>
<td>800-1300</td>
<td>67-72</td>
</tr>
</tbody>
</table>

### MIXING RATIO

- **100 p.b.w. Fast Cast Polyurethane Part A**
- **100 p.b.w. Fast Cast Polyurethane Part B**

### MOULD PREPARATION

Before use ensure that the master model from which the mould is made has the exact finish that is required in the cast or finished units, i.e. for optimum clarity polish the master model to a very high gloss shine. Ensure that the mould is clean and dry. If the mould is made from metal or resin, use a compatible release agent. Fast Cast resin is compatible with both Easy Composite’s Addition Cure and Condensation cure silicone rubbers.

If the mould or pattern is made from a porous material (such as wood or plaster) ensure that the material is well sealed with varnish and/or a wax based release agent.

### RESIN PREPARATION

Open the Part B container and examine for any signs of crystallization. If any crystals are observed place in an oven at 45–60°C for several minutes and then allow to cool before use.

For best results ensure that both components are at least 20°C before mixing.

To pigment the resin a wide range of colours we suggest Easy Composites’ Polyurethane Pigment Pastes. If using pigment, add the paste to the part A. We suggest using 1 – 3% pigment.

### FILLING

For smaller parts Fast Cast resin is generally used un-filled but for larger parts mineral filler or aluminium powder can be added to reduce shrinkage or improve temperature tolerance respectively.

Fillers should be added to a maximum ratio of 200% filler by weight (e.g. 200g of resin to 400g of filler).

Large volumes of resin will still exotherm more than small volumes of resin, even with the addition of fillers.

### MIXING INSTRUCTIONS

Mix the two components in the correct ratio, mixing carefully to avoid air inclusion and making sure that the material at the sides and at the bottom of the mix vessel is well stirred in to the middle.

To reduce the likelihood of introducing air bubbles into the resin when pouring it into the mould always pour gently down the side of the mould and keep pouring in the same place.

### DE-GASSING

Easy Composites’ Fast Cast Polyurethane Casting Resin is normally used without the assistance of vacuum degassing however if you find that your parts have tiny voids (caused by trapped air bubbles) consider the use of a vacuum degassing chamber. If degassing, do so for approximately 3 minutes before pouring.

### CURING

The casting can generally be demoulded within 30-40 minutes at room temperature. The precise demould time will vary with casting thickness, as thin section units will cure slower than thicker section units. When casting thin wall sections, ensure that the mould and resins are at least 20-25°C to facilitate a good cure and reduce the risk of brittleness. To reduce the cure time, the mould can be pre-warmed to 40-60°C. It is not recommended to heat the liquid components.
| STORAGE | Store both components A and B at 20-25°C. The Part B may crystallise partially or completely if not stored at above 20°C. The two components are moisture sensitive (like all PU’s). KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE. Moisture absorption will cause excessive aeration in cast parts. |
| SHELFLIFE | If stored under the above conditions the resin and hardener will have a shelf life of 6 months, from the date of production. |

Our technical advice, whether verbal, or in writing is given in good faith, but without warranty - this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended processes and uses.

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