Polycraft Poly-Smash

Simulated Breakable Glass Plastic

100:A 200:B	10-15 Mins	8-12 Hrs	Clear	Shore D85	25°c	1.06kg/ 1 Litre
Mix Ratio By Weight	Pot Life (20°c)	Demould Time (35°c)	Cured Colour	Hardness	Working Temperature	Approx. Density

Technical Overview

Property	Component	Value
Material	A B	Polyol Isocyanate
Colour	A B	Clear Clear
Viscosity (mPas) @25°c	A B A&B Mix	500-700 20-40 40-80
Density @ 20°c g/cm3	A B A&B Mix	1.03 ± 0.05 1.04 ± 0.05 1.03 ± 0.05
Mix Ratio (by weight)	A&B Mix	100A:200B

Property	Unit	Value
Hardness	Shore D	85
Linear Shrinkage	%	<0.2
Mechanical Strength	-	Brittle/Fragile
Heat Deflection Temperature	°C	48-52
De-Mould Time (25°c)	Hours	8-12

Surface Finish

For optimum clarity / transparency the mould must have a high gloss finish, mould surfaces that are satin or matt will produce a hazy finish.

Mould Compatibility

Addition cure silicone is the preferred mould material. Condensation silicones are not recommended. Some thermoplastics like polyethylene or polypropylene may be used in certain applications, If unsure a small scale test will help determine suitability.

Casting Thickness

The recommended casting thickness is between 2mm and 5mm, thinner castings than stated are slow to cure and prone to moisture ingress. Thicker castings will take more force to break so considerations for thickness should be accounted for depending on the application. Testing is highly recommended to ensure suitability.

Product Overview

Polycraft Poly-Smash is a low viscosity water clear polyurethane system, designed to shatter on impact. It can be cast in solid layers from 2mm to 5mm. Created in mind for fake window panes or hollow forms like glass bottles and jars. Commonly used in stage / film industry.

Instructions for Use

Preparation

- Ensure both components are in the correct temperature range (25°c)
- Mould must be clean and dry and warmed to 25°c/30°c
- (45°c/50°c mould temperatures may be necessary for rectangular moulds to prevent shirnkage at the corners).
- Select a suitable plastic mixing container, paper cups are not suitable
- Use plastic mixing sticks as wood can introduce moisture which will result in bubbles/ foaming of the resin system.
- Stir / shake both components prior to mixing
- Keep lids on both components until ready for use and replace lids as soon as finished to prevent moisture contamination
- Ensure lids are not mixed between components and clean residues of the bottle necks to prevent lids sticking for future use.

Mixing/Pour/Demould

- With care measure using digital scales and combine both components.
- Mix material together, ensure to thoroughly mix contents, the material should not have any streaks through the mix, stir for longer if streaks are still visible and/or transferring the mix to a fresh cup which can help eliminate unmixed residues.
- Cast in depths between 2mm and 5mm
- Poly-Smash may be pigmented using the polycraft polyurethane pigments and polycolor dyes. (Add to part A and mix prior to combining both components)
- For optical results degassing is recommended. Place under vacuum until material rises and collapses, and continue to run for a further 60 to 90 seconds before restoring to normal atmospheric conditions. Avoid long and high levels of vacuum as this can cause unnecessary boiling of material which will produce poor results.

Cure Time

Although the Poly-Smash will cure at room temperature it is recommended to cure the castings at 40°c to 50°c for 3-4 hours due to the low Heat Deflection Temperature's (HDT). Allowing to cool before demoulding to prevent distortion of the casting. At room temperature it will take between 8-12 hours to reach its full cure and become weak/fragile. Poly-Smash will toughen as it ages making it harder to break therefore its recommended to use it as soon as possible

Health and 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.

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