

ClearCast

Description

Sylmasta ClearCast is a very clear urethane resin made specifically for applications that require clarity. The low viscosity of this rigid casting resin ensures easy mixing and pouring. ClearCast cures at room temperature with negligible shrinkage. Cured castings are UV Resistant and are not brittle. Vibrant colours and colour effects can be achieved by adding pigment dispersions. Applications include encapsulation, making prototype models, lenses, sculpture reproductions, decorative cast pieces, jewellery, prototype models, special effects and props.

Applications

- Casting of clear master and core models, negatives and moulding of small to medium dimensions
- Suitable for thinner and thicker layers

Advantages

- Very good flow ability
- Very low mixing viscosity
- Very good wetting of fillers
- Short demoulding time
- Good adhesion to wooden materials
- Very fine structure
- Very good mechanically workable

Technical Data

MINIMUM SHELF LIFE (months @ 18 - 25°C)	12
POT LIFE (mins)	9
FULL CURE (mins)	90
CASTING THICKNESS (mm)	
MINIMUM	1.6
MAXIMUM	12.7
VICOSITY (cps)	600
HARDNESS, SHORE D	80
TENSILE STRENGTH (MPa)	17
COMPRESSIVE STRENGTH (MPa)	276
ELONGATION @BREAK	10%
TENSILE MODULUS (MPa)	758
FLEXURAL STRENGTH (MPa)	76
REFRACTIVE INDEX	1.491
DIELECTRIC STRENGTH (volts/mil)	300
ELECTRICAL RESISTANCE (OHMS/CM)	1.4 X 10 ¹⁵
DENSITY (g/cm ³)	1.036
SHRINKAGE (%)	<1 (depending upon mass)

(values are typical and should only be used as a guideline)

Whilst all reasonable care is taken in compiling technical data on the Company's products, all recommendations or suggestions regarding the use of such products are made without guarantee, since the conditions of use are beyond the control of the Company. It is the customer's responsibility to satisfy themselves that each product is fit for the purpose for which they intend to use it, that the actual conditions of use are suitable and that in the light of our continual research and development programme the information relating to each product has not been superseded.

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Mixing

Mix thoroughly for 2-3 minutes making sure that you scrape the sides and bottom of your container several times. If colouring or filling ClearCast, add filler or pigment dispersion to Part B and mix thoroughly before adding Part A. After mixing, empty contents into a new, clean mixing container and mix again thoroughly.

To minimise air bubbles, vacuum de-gas prior to pouring. Subject mixture to 29 h.i.g. mercury in a suitable vacuum chamber for 2-3 minutes or until mixture rises, breaks and falls. Allow for 3 to 4 times volume expansion in container. Pour mixture in a single spot at the lowest point of the mould and let the mixture seek its level. Best results are obtained using a pressure casting technique. After pouring the mixed compound, the entire casting assembly (mould, dam structure, etc.) is placed in a pressure chamber and subjected to 60 PSI (4.2 kg/cm²) air pressure for at least one hour. Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.

Post-Cure

Castings will achieve maximum physical properties and better heat resistance if post cured. Post curing is recommended if castings are thin or of low mass concentration. Castings should be post cured in a mould or support structure. Allow the material to cure for 6-8 hours at room temperature followed by 6 hours at 65 - 72°C (150 - 160°F). Allow casting or part to cool to room temperature before demoulding.

Packaging

Code Name Size

CPU31/100g Ultra Clear PU Resins 100g

CPU31/1kg Ultra Clear PU Resins 10kg

Storage

Materials should be stored and used in a warm environment (22° C / 72° F). Castings will reach ultimate physical properties at room temperature in 5 - 7 days. Castings removed from mould before recommended cure may exhibit a tacky surface that can be eliminated by exposing casting to 65°C / 150°F for 6 hours.

Health & Safety

For information and advice on the safe handling and storage of products, users should refer to the current safety Data Sheet containing physical, ecological, toxicological and other safety related data.

Only use this product with adequate room ventilation and do not inhale/breathe fumes. Castings will be extremely hot immediately following cure and may burn the skin. Let cool to room temperature before handling.

Disposal

Product recommendations: Must be disposed of in a special waste disposal unit in accordance with the corresponding regulations.

Packaging recommendations: Completely emptied packaging can be given for recycling. Packaging that cannot be cleaned should be disposed of as product waste.

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