PRODUCT DATA SHEET

# PureCast Clear Epoxy Resin/PureCast Slow Hardener

EPOXY CASTING RESIN WITH HIGH TRANSPARENCY SUITABLE FOR DEEP POURING

## APPLICATIONS

- For applications furniture, art and decoration to make deep pour transparent and UV resistant castings such as river table, embeddings, mock-ups, trophies

## MAIN PROPERTIES

- High transparency
- Low viscosity
- Self-degassing behaviour
- Single pour casting up to 45 mm @ 20°C
- Good UV resistance

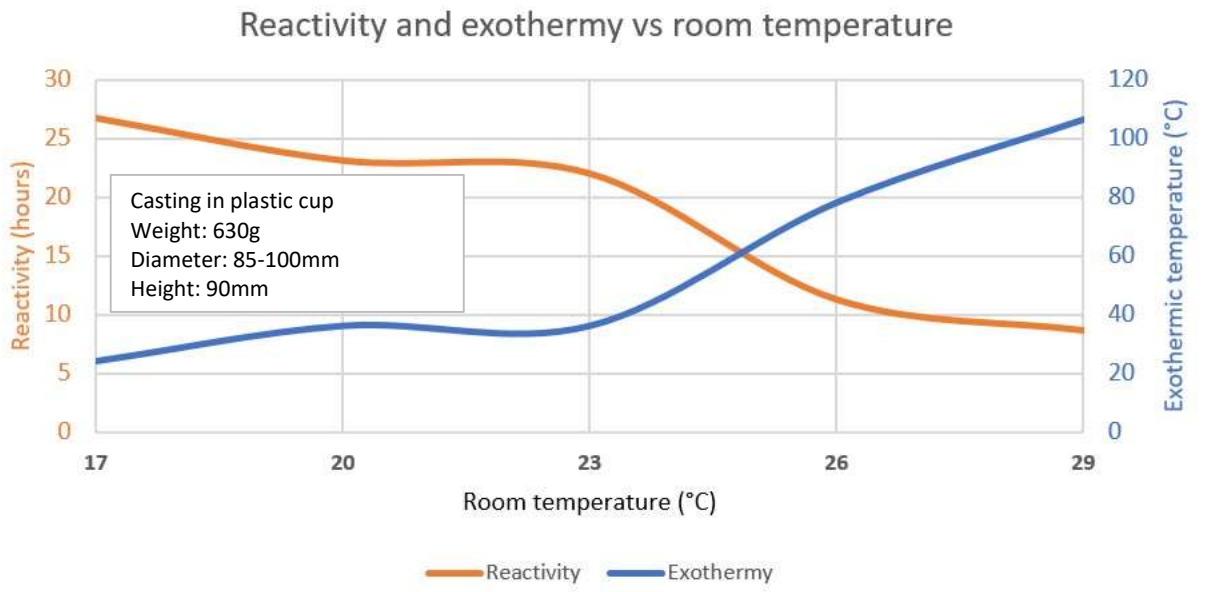
## DESCRIPTION

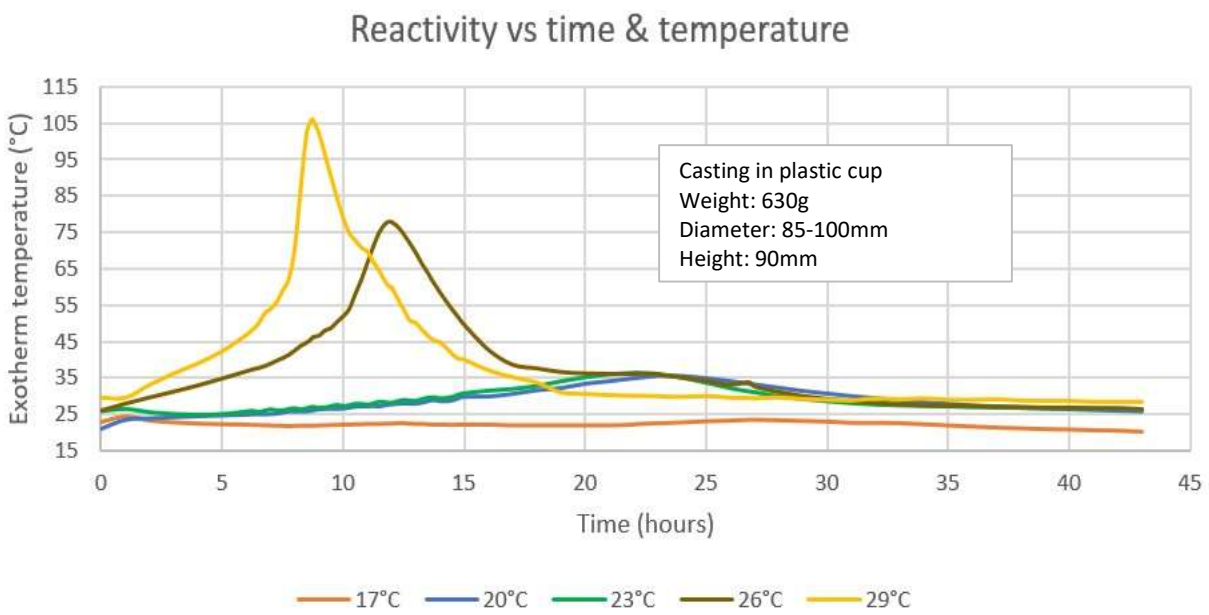
| | |
|---|---|
| Basis | Two component epoxy system |
| Component A | PureCast Clear Epoxy Resin, unfilled, bluish-transparent |
| Component B | PureCast Slow Hardener, amine, unfilled, transparent |

## PHYSICAL PROPERTIES

| | | Resin (A) | Hardener (B) |
|---|---|---|---|
| Components | | **PureCast Clear Epoxy Resin** | **PureCast Slow Hardener** |
| Viscosity, 25 °C | mPa.s | ~ 500 | ~ 100 |
| Mixing ratio | in parts by weight | 100 | 45 |
| | in parts by volume | 100 | 50 |
| | | Mixture | |
| Colour | | transparent | |
| Viscosity, 25 °C | mPa.s | ~ 300 | |
| Reactivity on 500 g, 23 °C* | h | ~ 17 | |
| (Max. exothermic temperature) | °C | ~ 35 | |

* refer to the graph below, influence of room temperature (RT) on exothermic reaction and curing time on 500 g casted in a plastic cup in thickness 90 mm


Reactivity and exothermy vs room temperature
Reactivity (hours)
Exothermic temperature (°C)
Casting in plastic cup
Weight: 630g
Diameter: 85-100mm
Height: 90mm
Room temperature (°C)
Reactivity
Exothermy


Reactivity vs time & temperature
Exotherm temperature (°C)
Casting in plastic cup
Weight: 630g
Diameter: 85-100mm
Height: 90mm
Time (hours)
17°C
20°C
23°C
26°C
29°C

## MECHANICAL AND THERMAL PROPERTIES

approx. values on standard-sized specimen / after curing 7 days at room temperature

| | | | |
|---|---|---|---|
| Shore hardness | ISO 868 | Shore D1 | D 80 |
| Elongation at maximum strength | ISO 527 | % | 4,5 |
| Flexural modulus | ISO 178 | MPa | 2,100 |
| Glass transition temperature (TG) | ISO 11359-2 | °C | 39 |
| Glass transition temperature (TG) after 16H at 50°C | ISO 11359-2 | °C | 47 |

## SPECIFIC PROPERTIES

| Maximum casting thickness on plate 350 x 300 mm | Room temperature | Thickness (mm) |
|---|---|---|
| Lowest temperature to work with | 17 °C | 80 |
| | 20 °C | 45 |
| | 23 °C with fan | 70 |
| | 23 °C | 35-40 |
| | 26 °C | 30 |
| Highest temperature to work with | 29°C | 25 |

## PACKAGING UNITS

- Resin (A), **PureCast Clear Epoxy Resin** 1000 kg / 220 kg / 5 kg net
- Hardener (B), **PureCast Slow Hardener** 950 kg / 200 kg / 2.25 kg net

## PROCESSING DATA

- Room temperature is the most important parameter to be successful in **PureCast Clear Epoxy Resin** casting. There is a link in between room temperature (RT), volume of cast resin and curing speed. A speed curing caused by warm RT creates high exothermic reaction and cured resin could be yellow with streaks on top.
- Above 4kg volume and a casting height of more than 40mm it is recommended to decrease the exothermic temperature by using a fan or reducing the room temperature.
- Mixing should be done by hand or with an electric mixer. Be careful not to incorporate too much air while mixing. Emulsion must be avoided.
- After a primary mixing in a bucket pour the product in a second bucked and finish the mixing. Scrap well the walls of the mixing container. Leave the mixing for a self-degassing for at least 15 to 30 minutes prior to cast or use a vacuum chamber.
- According to long pot life and low viscosity the casting frame must be perfectly tight. Brown PE packing tape is self-releasing from the resin and could be used in corners of the box and anywhere resin should not bond on support.
- A liquid or pasty wax could be also used to prevent bonding on models and supports. The wood or porous surfaces of models must be sealed before casting the resin. Quick setting epoxy or a varnish could be used but sealer must be cured prior to casting of **PureCast Clear Epoxy Resin**.
- After casting and some relaxation time the remaining bubbles can easily be removed with a hot airstream gun (sweep the surface at 15 – 20 cm of distance).
- A thin sanding and polishing are almost always needed to get shiny and flat surface. Use appropriate tools in order to avoid heat on the resin when polishing. Water sandpaper is advised.
- Prolonged intensive UV exposure can lead to optical changes or changes in transparency.

## STORAGE CONDITIONS

| | | |
|---|---|---|
| Shelf life | ▪ Resin (A), **PureCast Clear Epoxy Resin**<br>▪ Hardener (B), **PureCast Slow Hardener** | 12 months<br>12 months |
| Storage temperature | ▪ Resin (A), **PureCast Clear Epoxy Resin**<br>▪ Hardener (B), **PureCast Slow Hardener** | 15 – 25 °C<br>15 – 25 °C |
| Crystallization | ▪ After prolonged storage at low temperature, crystallization of A (RESIN) component may occur.<br>▪ This is easily removed by warming up for a sufficient time to a maximum of 70 °C.<br>▪ Allow to cool to requested processing temperature before use. | |
| Opened packagings | ▪ Containers must be closed tightly immediately after use to prevent moisture ingress.<br>▪ The residual material needs to be used up as soon as possible. | |

**FURTHER INFORMATION**

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of CFSNET Ltd. Copies of the following publications are available on request: Safety Data Sheets

**BASIS OF PRODUCT DATA**

All technical data stated in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

**HEALTH AND SAFETY INFORMATION**

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

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