Technical Data Sheet

CastCore 100

Product Description

A water-clear, UV stabilized, low-viscosity epoxy system designed specifically for casting, potting, and embedding applications. Low color and low viscosity allow for bubble-free, crystal clear casting ideal for art and hobby applications.

Product uses:

- Ideal for "River Table" making.
- Creation of transparent, water-clear castings.
- Encapsulation of decorative elements.
- Foundry patterns, reproduction patterns, building of medium molds and castings.
- Art works.

Properties

- Transparent, low shrink-casting with tacky-free surfaces.
- Very good flow properties (low-viscosity).
- Cause pressure-resistant and impact-resistant (tough) molds / components with high strength and very less shrinkage.
- De moldable at room-temperature, applicable at slightly increased temperatures.

TECHNICAL PROPERTIES

Appearance/Color	High Gloss / Crystal Clear
Density:	1.05 kg/liter (Mixed)
Volume solids %:	100 %
Working temperature	18-35 °C
Flash Point:	100 ° C. /212 °F
Open time:	3 hours (23°C and 50% R.H.)
VOC:	10 g/ltr
Demouldable after:	< 48 h (at 20°C)
Full dry:	24 hours (23°C and 50 % R.H.)
Full cure time:	7 days (23°C and 50 % R.H.)
Hardness 25°C"Shore D":	80 - 85
Tensile strength:	51 – 58 MN/m²
Min. cure temperature:	+10°C/50°F
Mixing Ratio:	Component A: 2.5 - Component B: 1 (By weight or volume)

How to use the product:

CastCore 100 has been designed to be as easy-to-use and reliable as possible. It does not require degassing or any other special equipment and in fact will thoroughly degas itself during cure, resulting in a perfectly clear, bubble-free casting.

Like most epoxy resins, the way that ***CastCore 100*** will cure is very dependent upon the ambient temperature. The system has been designed to work in ambient temperatures between 15°C and 30°C. For best results, an ambient temperature of between 20°C and 25°C is recommended. The ***CastCore 100*** resin and hardener also needs to be used and cured at an ambient temperature between 20°C and 25°C to achieve optimum results. If the ***CastCore 100*** is over 25°C or falls below 20°C it can affect the performance of the resin.

To avoid unnecessary aeration of the resin, we strongly recommend mixing by hand and not using a paddle mixer/sheer mixer drill attachment.
Whilst ***CastCore 100*** is curing it can absorb moisture from the air. In higher humidity environments this moisture absorption can affect the surface finish and therefore, for best results, avoid pouring ***CastCore 100*** in humid environments (relative humidity of 70% or more). This becomes particularly important in lower ambient temperatures where a slower cure leaves the uncured resin exposed to humid area for longer.
In much the same way that ***CastCore 100*** can be adversely affected whilst curing by moisture in the air, it will also be affected by any moisture in the surface onto which it is poured. Whatever surface you are pouring onto, it is important to ensure that the surface is as dry and stable as possible. This is particularly relevant when working with natural materials like wood and cork or concrete where moisture levels within the substrate can be high. When working with wood that is either freshly sawn or reclaimed/salvaged from a damp environment it will be necessary to dry the wood thoroughly - which could take days or weeks indoors - before use. Failure to ensure that the wood is properly dried and stabilized can result in a surface reaction with the resin as well as 'bowing' or distortion if the wood starts to dry after the resin layer has been cast.
CastCore 100 has excellent tolerance to modest levels of moisture but can still be adversely effected by higher moisture content in wood and other substrates. Wood with a high moisture content is also liable to move (shrink) as it dries out which can cause 'bowing' or distortion of the piece if the wood starts to dry after the resin layer has been cast. Ensure wood is properly seasoned and dried before use.

Mixing Instructions:

To avoid mixing excess air into the resin, we strongly recommend mixing by hand and not using a sheer mixer or power mixer drill attachment. Weigh or measure the exact ratio of resin and hardener into a straight sided container. Using a suitable mixing stick begin to mix the resin and hardener together to combine them completely. Spend around 3 minutes mixing the resin and hardener together, paying particular attention to the sides and base of the container. Remember: Any resin that has not been thoroughly combined with hardener will not cure. Mix in such a way as to combine the resin and the hardener thoroughly without 'whipping' or introducing unnecessary amounts of air into the mix. Once you have finished mixing in one container, it is good practice to transfer the mixed resin into a second, clean mixing container and undertake further mixing for another 3 minutes using a new mixing stick. Doing so will eliminate the risk of accidentally using unmixed resin from the bottom or sides of the original container. Power Mixers / Sheer Mixer Drill Attachments As mentioned above, we do not recommend the use of sheer mixers or power mixers with ***CastCore 100***. Use of a power mixer - especially if the mixing head is not kept fully submerged in the resin - can result in quite extreme amounts of air entrapment which will be too much for the resin to self-expel, especially on deeper pours. If you do use a power mixer, the resin should be degassed in a degassing chamber before use.

Pigments and Tints

CastCore 100 can be pigmented with our range of epoxy compatible pigments including the Translucent Tinting Pigments, Solid Color Epoxy Pigment Paste and Metallic Powder Pigments.

Shelf life & Storage:

12 months from date of production if stored properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5°C and +30°C.

Safety:

For information and precautions on the safe handling, transportation storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Legal Notice:

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