KRISTAL

KRISTAL DIAMOND COAT 6
KRISTAL 30
KRISTAL 50
KRISTAL 100
EPOXY RESIN CASTING SYSTEM
TECHNICAL DATA SHEET

KEY FEATURES

KRISTAL™ is a water clear, UV stabilised, 2-part epoxy resin casting system used to create **river tables, countertop coatings, resin art, encapsulation, electrical potting, 3d floor art coating** and many other casting related applications.
This high-performance epoxy resin has excellent self-levelling properties and outstanding self-clearing properties leaving castings virtually bubble free.
Once cured, ***KRISTAL*** castings exhibit negligible shrinkage are scratch resistant (*but not scratch proof*) and are anti yellowing UV stabilised.
Cured ***KRISTAL*** castings are FDA approved for culinary applications making them food-safe (please note that food should not exceed 50°Celcius). (*Test method: FDA 21 CFR 177.2600 report number GZ190826027FR*)

PHYSICAL PROPERTIES

The KRISTAL casting resins are available in 4 unique systems:

- **KRISTAL DIAMOND COAT 6**, ultra-hard scratch resistant coating resin with a 6mm maximum casting thickness per layer
- **KRISTAL 30***,* very hard resin with a maximum casting thickness of 30mm per layer. Max volume cast of 10 litres
- **KRISTAL 50***,* very hard resin with a maximum casting thickness of 50mm per layer. Max volume cast of 30 litres
- **KRISTAL 100***,* very hard resin with a maximum casting thickness of 100mm per layer. Max volume cast of 50 litres

KRISTAL PRODUCT	Mix Ratio By Weight	Pot Life**	Cure Time**	Shore D Hardness	Heat Distortion Temp	Viscosity Part A RESIN	Viscosity Part B HARDENER	Specific Gravity	Compressive Strength Kg/mm2	Max Casting Thickness
Diamond Coat 6	100:33	40 min	24hrs	90	80°C	500-1000cps	100cps	1.1	13.4	6mm
30	100:33	40 min	24hrs	85	80°C	1000-2000cps	100cps	1.1	8.8	30mm
50	100:33	60 min	48hrs	80	80°C	1000-2000cps	300cps	1.1	13.4	50mm
100	100:25	90 min	72hrs	80	80°C	1000-2000cps	300cps	1.1	13.4	100mm

PROCESSING RECOMMENDATIONS

Materials should be stored and used at an ambient room temperature of 23°C with relative humidity below 85%. Warmer temperatures will reduce pot life and may also influence the casting thickness. *If Temperatures are warmer than 25°C, reduce maximum casting thickness by 50% or as appropriately required to avoid excessive exothermic reactions.*

SAFETY AND HANDLING

Epoxy resins and hardeners are chemicals and the below safety precautions should be practiced when using these materials.

- Work in an environment with adequate ventilation and avoid breathing fumes (a NIOSH approved respirator is recommended)
- Use protective Nitrile gloves to avoid skin contact
- Barrier creams can also be used to minimise skin contact
- If accidental skin contact occurs, use soap and water or hand cleaner to wash hands (never use solvents)

ALWAYS:

- Measure out part A – resin and part B hardener as indicated using an accurate digital gram scale
- Mix resin and hardener together thoroughly for 3 – 5 minutes using a flat paddle mixer, also scraping the sides and bottom of the container several times. Pour mixed material into a clean container and mix for another 60 seconds before casting. (this is a *"mix pour mix"* technique that ensures that part A & B on the sides and bottom of the container are properly blended so that there are no tacky spots or streaking in the cured casting)
- Allow adequate time to fully cure before sanding, polishing, and using.
- Wear appropriate safety gear and dust mask when sanding and polishing cured resin

AVOID:

- Applying onto oily or contaminated surfaces
- Applying onto damp or wet surfaces
- Whipping and beating material while mixing, this will introduce additional unnecessary air bubbles
- Working with and curing resins in temperatures below 18°C

APPLYING A RELEASE AGENT

Ease Release 200, 205 or Ram Wax can be used to effectively release cured epoxy castings to prevent adhesion on non-porous surfaces like metal, glass, melamine, or acrylic sheeting.

ADDING COLOUR

KRISTAL epoxy casting resin can be coloured by using Epoxy Pigments, So-Strong Pigments or UVO pigments and some amazing effects can be achieved by using metallic & pearlescent powders or phosphorescent glow in the dark powders like Glow Worm.

IMPORTANT:

Epoxy resin systems are exothermic, meaning that heat is generated when resin & hardener are mixed and begin to cross link. Larger volumes will create more heat and if mixed and cast in larger volumes than indicted, can generate enough heat to melt plastic mixing cups, burn skin or even ignite combustible materials. Please take care and reduce casting thickness when working in environments warmer than 25°C

If a batch of material begins to get excessively hot from the exothermic reaction, move to an open-air environment and be careful not to breathe fumes.

Please note that even though these materials are UV stabilised to promote "anti-yellowing", ambering or yellowing will occur if continually exposed to harsh UV environments.

POURING

When pouring, it is recommended to pour to the lowest point and allow material to seek its level. Pouring in a uniform manner will help to reduce air bubble entrapment. Do not exceed recommended casting thickness.

If pouring in stages, allow previous layer to cure and return to room temperature before pouring the next layer. A propane torch can be used to dissipate surface air bubbles. (Move the torch / open flame over the surface of the resin, keep the torch moving so not to burn the surface.)

**POT LIFE AND CURING TIME

Epoxy casting resins are mass-sensitive, larger volumes of material will generate higher temperatures through the exothermic reaction which will reduce pot life & cure time. Thinner castings will generate less heat and will take longer to cure. Ambient room temperature will also play a significant role in the pot life & cure time. Typical cure time at 23°deg C may take 24 to 72 hours. Temperatures below 18°C may cause cure inhibition.

REMOVING EPOXY

Uncured epoxy can be removed by scraping as much material as possible from the surface using a paint scraper, acetone or isopropyl alcohol can be used to remove the residue that is left.