

RESIDENTIAL
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INDUSTRIAL
& MARINE

ART
& CRAFT

SHIMICOAT
SURFACE SOLUTIONS



Pro Deep Cast Clear Epoxy

Kit Sizes

Kit Sizes (Vol)	Mix Ratios
2Lt	1A:1B (1Lt A + 1Lt B)
4Lt	1A:1B (2Lt A + 2Lt B)
10Lt	1A:1B (5Lt A + 5Lt B)
20Lt	1A:1B (10Lt A + 10Lt B)
40Lt	1A:1B (20Lt A + 20Lt B)

Description

Pro Deep Cast Clear Epoxy is an industrial grade epoxy coating material for high performance coating. The product has various applications due to its excellent mechanical, chemical, electrical and adhesion properties to most substrates. It can be applied over well-prepared metal, concrete, laminate, wood/timber, stone, granite and even glass surfaces with superior adhesion.

Two components (A & B) comes in clear 100% solid epoxy used as clear topcoat with chemical resistance and durability, ideal for variety of pour-on applications and coating systems. Part A is highly viscous and part B is low viscosity. Pro Deep Cast Clear Epoxy is a high-quality solvent-less, odorless two component coating system providing a tough, crystal clear high build, high gloss and wet look epoxy to achieve a piece of art and protect surface from stains, spills and wear. Pro Deep Cast Clear Epoxy has been developed specifically for Australian conditions using the latest epoxy technology. It provides excellent protection against weathering conditions and the splash and spillage of a wide range of chemicals. Pro Deep Cast Clear Epoxy provides a highly durable, chalk resistant, wear and chemical resistance surface for over variety of substrates. As well as Pro Cast River Table PourOn applications, the surface may be laid as a thin film using roller or brush. The thickness of the coating can be reduced by addition of Diluent (EpoThin or EpoCool). Many decorative materials may be used with this product. Modern, hygienic, functional and economical surface.

Features

Pro Deep Cast Clear Epoxy is supplied in two pack kit, Part A (Resin) and Part B (Curative or Hardener). Other parts such as pigment, flakes and decorative materials can be supplied separately. Some selected features of Pro Deep Cast Clear Epoxy:

- Can be poured-on as deep as 25mm without any overheating issue.
- For thicker pour-on applications, please use SHIMICOAT Professional Pro Cast Epoxy.
- Modern, Hygiene, Functional and Economical.
- Heavy duty clear or pigmented.
- Superior Chemical Resistant Finished surface.
- Long lasting and easily maintained.
- Solvent free.
- Outstanding water resistance.
- Seamless, easy to clean and maintain.
- DIY Friendly, easy to apply and curable over a wide range of temperature.

 **MATERIALS**  **CHEMICALS**  **RESINS**  **EQUIPMENT**

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Usage

1A:1B by volume

Volume of epoxy blend shall be equal to cavity to be filled

Applications

PourOn, Roller, Brush or Squeegee.

EpoThin or EpoCool can be used up to 10% concentration to cool down exothermic reaction of epoxy resin with curing agent.

Dry Time at 25°C

Each Pour:	25mm (more can be applied in cool conditions)
Mix Ratio	1 Part A + 1 Part B (1A:1B)
Pot Life:	45 minutes at 25°C
Tack Free:	2-3 hours
Thin Film Set:	8 Hours (Min, depending on temperature and humidity)
Shallow Cast Set:	24 Hours (Min, depending on temperature and humidity) 25mm Max
Dry Cured:	12-16 hours – Foot Traffic (depending on temperature and humidity)
Fully Cured:	7 days
Re-Coat:	Over night

Clean Up

Thinner & Diluent (Blend of Solvents).

Preparations

Clean and dry surface. Ensure surface to be coated is free of all dirt, grease, oil, paint, curing agents and other contaminants. Removal of Oil Contamination by degreaser and alkaline cleaning pressure wash
Acid-wash to enhanced surface porosity and etch the surface. Ensure moisture free surface. Allow to completely dry, run Dry Test. Place a piece of plastic over a small area, tape the edges and leave for 1 hour. Remove plastic, if there is no moisture on either surface, concrete is sufficiently dry. Ideally, always consider surface grinding and removal of loose materials. Grinding is always advisable prior to application of all Shimicoat Epoxy products, to maximize adhesion. For further information, please refer to SHIMICOAT Instruction for "Surface Preparations".

Specifications

Physical & Chemical properties of Pro Deep Cast Clear Epoxy:

Mix Ratios	1A:1B (Volume) or 1.1A:1B (Weight) <i>For Example: 1Lt of A (1.1Kg) & 1Lt of B (1Kg)</i>
Pot Life @25°C	45min
Colour of Blend	Available in All Australian Standard AS 2700 Colours
Specific Gravity (SG) of Blend	1.0
Low Profile Coverage (Kg/sqm)	Roller Application (200micron) - 0.2Kg of Blend per sqm
Maximum Temperature Surface Exposure (°C)	140
Initial Cure Time (Hours)	24Hours
Ultimate Cure Time (Days)	7 Days
Compressive strength (ASTM D 695-85)	80-90
Tensile strength (ASTM D 638-86)	50
Flexural strength (ASTM D 790-86)	80-90
Hardness shore D (ASTM D2240-86)	81
Abrasion Resistance (ASTM D4060-90)	0.056 g/1000 cycle

Specific resistance properties of Pro Deep Cast Clear Epoxy, in harsh chemicals.

Media	Reagent	Rating
Acids	Hydrochloric Acid	B
	Sulphuric Acid	C
	Acetic Acid	B
	Nitric Acid (10% max)	C
	Phosphoric Acid (25% max)	B
Alkalis	Sodium Hydroxide	B
	Ammonium Hydroxide	A
	Potassium Hydroxide	B
	Sodium Hypochlorite (Bleach)	A
	Xylene	A
Solvents	Methyl Ethyl Ketone (MEK)	C
	Diesel	A
	Ethanol	A
	Acetone	B
	Kerosene	A
	Petrol	A
	Wine & Beer	A
Code	Resistance	Description
A	Excellent	Suitable for Long term immersion
B	Good	Suitable for Short-term immersion (Max 3 days)
C	Caution	Very short contact time is OK, spill and splash
D	Danger	Not Recommended
Indicative reference only. Tested in laboratory conditions at 25°C.		

Resistance properties of Pro Deep Cast Clear Epoxy:

Heat Resistant	140°C	Alkalis	Resist Short term immersion in all alkalis.
Weather Proofing	All Epoxy Coatings may yellow with time. Weatherproof top coat may be used if required.	Salts & Brines	Resist continuous or long-term immersion in all Salts & Brine systems.
Solvents	Resistant to most hydrocarbon solvents and alcohols.	Water	Excellent resist to continuous or long term immersion in fresh & Salt Water.
Acids	Resist splash and spills in all acids.	Abrasion	Excellent when fully cured (7 Days)

Direction

Mixing:

Mix thoroughly for a minimum 3 minutes manual or with mechanical mixer at low speed (750rpm Max). If mixing smaller portions mix at a ratio of 1A:1B by weight or volume. For example, to prepare 2Lt mix, add 1,000mL (1Lt) of Part B (Curative or Hardener) into 1Lt (2,000mL) of Part A (Resin). If colour required, add SHIMI COLOURS to the kit and mix again thoroughly.

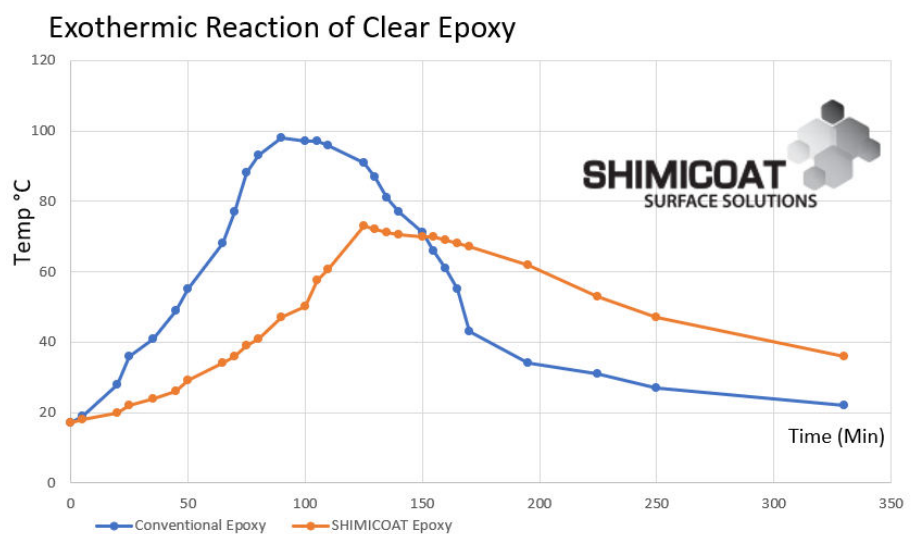
- Ensure surface to be coated is dry, moisture can cause blooming and delamination.
- Pot life is approximately 45 minutes, work within 30min to ensure easy flow application.
- SHIMI COLOURS, SHIMI METALLIC or SHIMI GLITTERS should be first added to Part A (Resin). Mix slowly using drill mixer on low speed. Mix for a few minutes to ensure completely homogenized without lump. Pour the bend into your tray and apply directly on the surface using the roller.
- Use steady long strokes and avoid overworking the roller or pushing your roller too quickly as this may trap air bubbles in the coating.
- Do not apply if the rain is expected within 24 hours of application.
- Not recommended for use below 10°C or above 35°C.
- Keep the pail sealed when not in use. Avoid application on hot surfaces.

Pro Cast River Table, deep Pour-On Crystal Clear Epoxy 1A:1B

SHIMICOAT offers a range of Clear Epoxy products which are industrial/commercial grade, 100% solid, in a two-pack kit labelled as "Part A and Part B". Part A contains *bisphenol A and epichlorohydrin* epoxy resin. Part B contains *Cycloaliphatic Amine* based curing agent.

Once, Part A is added to Part B, an exothermic chemical reaction occurs, generating heat to complete the curing process. All Epoxy products create heat during the hardening process. SHIMICOAT Pro Cast, River Table Clear Epoxy is slow curing, moderate and low heat generating product.

1. Once Part A is added to Part B, apply to your surface immediately, to cool it down.
2. The exothermic reaction of epoxy is resonated, if remains inside the pot, use and apply as soon as you can. Empty the mix onto your surface, mould, river table void or other objects to release heat.
3. Plan your mix to be as minimal as possible to enable you to manage application within 20min.
4. If your project requires large quantity of Epoxy in ONE Pour, use SHIMICOAT EpoCool (Max 10%) to dilute epoxy and reduce heat generation. This slows down the curing process and ensures more moderate curing process. Apply up to 25mm each pour.



SHIMICOAT Pro Cast River Table Epoxy is a commercial grade casting epoxy resin for woodworkers and artisans allowing over 100mm of epoxy depth in a single pour! Pro Cast River Table is a one single pour save you money, time and effort! There's no need to multi-pour of thin layers and wait 24 hours for it to cure enough to add another layer of epoxy. No more sanding in between multiple batches of epoxy pours. SHIMICOAT Pro Cast River Table Epoxy cures to a crystal-clear appearance or can be tinted with our Pearlescent Powder Pigments to a unique soft pearl luster. This super clear casting epoxy is unmatched with exceptional clarity and high gloss finish surface. It is a high-performance commercial grade epoxy resin designed for a 24-hour cure time with a slow exothermic heat buildup and cool down to eliminate cracking and shrinkage. Use for creative table making, woodworking, art projects and wood turning to add endless special effects to projects. SHIMICOAT Pro Cast River Table Epoxy is also perfect for casting and see-through encapsulation of objects in your favorite clear vessel. For thick epoxy object casting applications, SHIMICOAT epoxy will cast over 100mm provided correct use of EpoCool and HeatSink materials, which significantly reduces overheating risks.

Commonly Asked Questions:

1. How to achieve ideal clear epoxy resin deep casting?
2. What is the secret to obtain a crystal-clear resin with no disappointing side-effects, such as bubbles, yellowing or shrinkage, or overheating?
3. How can we apply one SINGLE Pour-On Epoxy on our object?

Selection of premium epoxy

Identifying premium epoxy for your project is the most important step when deciding on selection of epoxy for your casting and Pour-On Application. Premium quality resin means the selected raw materials are supported by significant R&D backup and proven high performance. Many factors play important roles in epoxy pouring application to ensure nonoccurrence of the following detrimental effects on your finish epoxy:

- Bubbling,
- Crating,
- Overheating,
- Spongy and soft patches
- Discoloration

Purity in epoxy is paramount. Premium epoxy formula contains all the elements to ensure high performance epoxy product. Some cheap epoxy products may contain sub-standard raw materials, certain particles of impurities and non-presence of important components. Your project is highly valuable and deserve high performance epoxy materials.

Not all the epoxy resin products available in the market are the same. It is important to identify ideal epoxy for your project.

Depth of PourOn Epoxy

Quantity and thickness of casting is one of the main criteria when selecting ideal Pro Cast River Table PourOn Epoxy. Pouring an important mass of resin may require using a **resin with a long Pot Life, that cures slowly**.

If the resin react fast and "kicks off" too quick, if the reaction is too sudden and it hardens too rapidly, the likelihood of shrinkage effects, yellowing, bubbles, crating, unsightly waves and irregularity on the surface is high.

Epoxy resin with a slower cure time, allows the whole mass cures uniformly, preserving a smooth surface and a perfect crystal clarity bed of epoxy.

When using epoxy products with short Pot Life and rapid curing process, resin may be poured-on in multi-stages of lesser mass and thinner pours, which implies significant surface preparations between each pour. Furthermore, when considering epoxy PourOn in consecutive stages, it requires to wait until the first layer has cooled down to 20°C, then PourOn the second layer. Otherwise, the heat of the first layer will accelerate the cure of the second layer, implying possible negative side-effects of an uncontrolled exothermic reaction.

Minimize air bubbles formation in Epoxy resin

The higher the viscosity of the resin, the more difficult it is for the bubbles to naturally pop- up out of the resin body depth. Resins with low viscosity, similar to water, are easier to degas naturally. In addition, the stirring technique is another important parameter to control. It is also highly advised to use a flat spatula. Avoid round wooden sticks. If using electric mixer, use low speed to avoid creating additional air bubbles. Use blow torch or heat-gun to release surface bubble soon after pouring. DO NOT use naked flame touch, if you have flammable liquid in your workshop. SHIMICOAT Pro Cast River Table Epoxy has high viscosity and especially in cold temperatures (<25°C) may require EpoCool (up to 10%) to thin the resin. Addition of EpoCool has also extra benefit which is very important such as sinking heat and cooling act. As the temperature of exothermic reaction of epoxy components rises, it causes EpoCool to evaporate and escape the system. This phenomenon results in lowering the temperature of Epoxy mass and slower curing process.

When using any flammable liquid into your epoxy blend, please avoid blow torch with naked flame. Safety is Paramount.

Application

When pouring Epoxy resin (Part A) and Hardener (Part B), ambient air temperature should ideally be between 10°C to 30°C, the cooler the better. Avoid working in high humidity. Work space should be dirt and dust free, no fan or air circulation. The product is self-levelling and shall be applied over a levelled and flat work surface.

The reaction of Epoxy resin, part A and Part B, is exothermic and generate heats. Use of Personal Protective Equipment are highly recommended:

- Safety Glasses or Goggles
- Disposable Plastic Gloves

As both epoxy liquids are clear, thorough mixing for a minimum of 3min is very important. Always pour Hardener (Part B) into mixing container first, then add the Resin (Part A). Hardener has a lower viscosity and will not stick to the mixing container sides and bottom as much as the resin (Part A) does, during mixing.

Stir with a paint stick or paddle mixer attached to a drill-mixer and mix at low RPM. Avoid whipping and the introduction of air. Scrape the mixing bucket sides and bottom to ensure compete mixing. For best results mix in one container then pour the mixture into the second clean container and thoroughly mix again followed by applying to your object.

Pot-Life: The mixed product inside the mixing container may begin to heat up after 30-40 minutes, shortening the valuable working time. Follow safety instructions at all times.

Slowly pour SHIMICOAT Pro Cast River Table Epoxy mix directly into a mold, casting vessel river table or void that you wish to fill. Continue pouring till you achieved the desired thickness and all mix is being transferred. Allow air bubbles to pop-up, use heat gun or butane blow torch to ensure no surface micro-bubble. Continue removing bubbles as needed up to 2 hours after final pour.

Temperature Control

Before applying Epoxy into your project, decide on how to prepare SHIMICOAT Epoxy for ideal casting. There are many ways to cool down and to minimize heat generation of epoxy. We recommend the following three methods:

1. Choose SHIMICOAT Pro Cast River Table Epoxy as your preferred formulation for your casting Project,
2. Add EpoCool at various concentration (depending on depth of Epoxy – See below Table),
3. Add HeatSink into your object to cool down the bed of epoxy (ONLY if necessary, for super deep pour applications).

Formulate you PourOn Epoxy for ideal casting application:

<i>Pro Cast River Table Epoxy</i>	Depth – Up To			
	25mm	25mm	100mm	Over 100mm
Volume – Up To				
1 Lt	Mix & Pour	5% EpoCool	5% EpoCool	10% EpoCool
3 Lt	Mix & Pour	5% EpoCool	10% EpoCool	10% EpoCool
6 Lt	Mix & Pour	5% EpoCool	10% EpoCool 5% HeatSink	10% EpoCool 5% HeatSink
15 Lt	Mix & Pour	10% EpoCool/ 5% HeatSink	10% EpoCool 10% HeatSink	10% EpoCool 10% HeatSink
30 Lt	Mix & Pour	10% EpoCool/ 10% HeatSink	10% EpoCool 10% HeatSink	10% EpoCool 10% HeatSink

Above table presents indicative quantities of additives.

HeatSink

HeatSink is white granular high density (D=2) that can be added to Epoxy once poured into the mould, river table, void or any other object.

It may be advisable to keep the HeatSink in freezer overnight and add to the bed of freshly poured epoxy and allow it to sink and cool down epoxy.

NOTE: It is important to use EpoCool to thin epoxy and promoting air/gas release before pouring freezing cold HeatSink.

HeatSink settles at the bottom of your object and form part of epoxy matrix.

Cure Time:

The final epoxy pour may take 72 hours to reach full cure and ready for breaking out of the mould.

Sanding and shaping can be done after 72 hours. Epoxy continues curing, over time and it normally reaches its optimal hardness after 7 days, however it continues to harden as it is aging.

Additional Pours

If you need to make a second pour to increase thickness, the first pour should be touch-dry and preferably no longer than 48hours elapsed. Once the second pour is achieved, bubbles may need to be removed.

NOTE: If longer than 48 hours have elapsed between pours, scuff hardened epoxy surface with 120 grit or finer sand paper may assist to ensure ideal inter-coat adhesion.

Food Safe

SHIMICOAT Pro Cast River Table Epoxy is Volatile Organic Compound (VOC) free, producing impervious surface that is hard and once fully cured, it is an inert polymeric plastic and fine for incidental food contact. The product is not antimicrobial. We do not recommend to be used as chopping board for cutting-on or prepare raw food on surface.

Clean Up

EpoThin - Thinner & Diluent (Blend of Solvents)

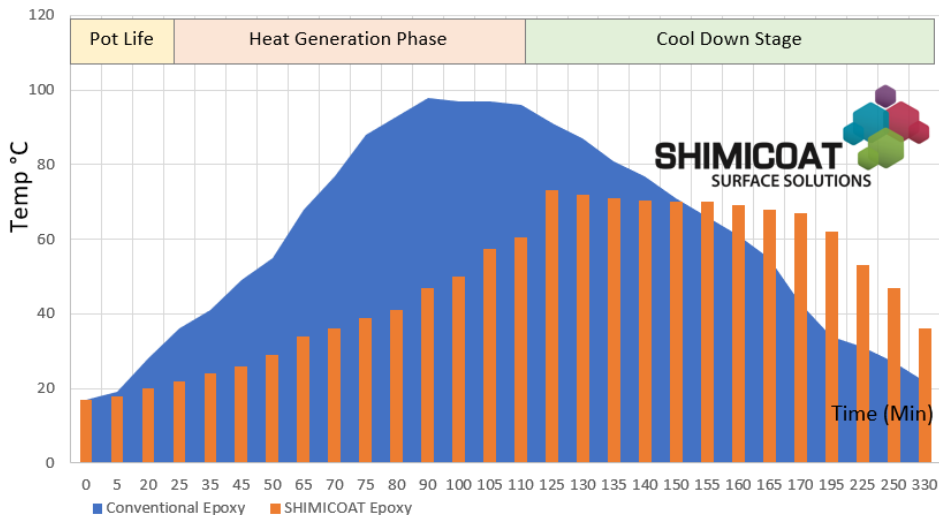
Warranty

The warranty on this product shall be limited to the replacement of defective unused materials, within one year of purchase. This material is for professional use. Please refer to Safety Data Sheet of the product for adequate ventilation and protection of eyes and skin. The end users shall take their own verification to ensure suitability and safe application the product.

Recommended Personal Protective Equipment (PPE)

NO	Area of Risk	PPE Required
1	Respiratory	Disposable cartridge, Air Line, Half or full Face
2	Eye Protection	Spectacles, Goggles, Shields or Visors
3	Hearing Protection	Ear Muffs and Plugs
4	Hand Protection	Gloves and Barrier Creams
5	Foot Protection	Safety Shoes and Boots
6	Head Protection	Helmets, Caps, Hoods and Hats
7	Skin Protection	Hats, Protective Creams and Long Sleeve Gloths

Exothermic Reaction of Clear Epoxy - Curing Process



Drying Times

Pro Deep Cast Clear Epoxy dries in 8-10 hours. High temperatures and windy conditions may speed the curing time. Full hardness is achieved after 7 days.

Temp °C	Pot Life (min)	Surface Dry (Hours)	Initial Cure (Hours)	Recoat Time (Hours)	Fully Cured (Days)
10°C	45	12	24	24	7 Days
20°C	40	10	18	18	7 Days
30°C	35	8	16	16	7 Days

WARNING

- Direct sunlight and UV radiation may result in chalking, colour variations and yellowing effect over time. For under direct sunlight, Polyaspartic, Polyurea or Polyurethane coating materials shall be used.

Storage

The products shall be stored out of direct sunlight and heat at all times. The shelf life of the product is 24 months, mix uniformly for 3 minutes prior to use.

DISCLAIMER

Material Safety Data Sheet, Technical and Environmental Data Sheet can be provided upon request.

The information provided in this document is guidance only and considering the uses of this product are beyond the seller's control, the product is sold without guarantees or warranties. Warranties and guarantees shall be governed by SHIMICOAT Standard Terms of Sale. The purchaser shall make its own tests to determine the suitability for their specific application, and Shimicoat Pty Ltd is taking no responsibility for misuse of the product. The purchaser assumes all risk of use and handling of this product. This product will be happily replaced or credited back if defective. Beyond this, Shimicoat Pty Ltd is not liable for any damages caused by this product or its use.

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The customer is not released from the obligation to conduct careful inspection and testing of supplied goods.