RESIDENTIAL & COMMERCIAL

INDUSTRIAL & MARINE

ART & CRAFT

SHIMICOAT
SURFACE SOLUTIONS

Pond Epoxy System
Chest Freezer Liner

An Application Guide

First Kit: Epoxy Putty Fast Cure
Second Kit: Pond Epoxy
Third Kit: Chemical Resistant Clear Epoxy *Topcoat Shield*

Direction / First Kit-Epoxy Putty Fast Cure

STRUCTURAL EPOXY FILLER

SHIMICOAT Epoxy Putty is a specially formulated non-sag gap filling epoxy compound, ideal for Pond, Cold Plunge, Ice Batth, Swimming Pool repair and maintenance. The product consists of two component Epoxy putty A & B, easy to mix and apply. It sets rapidly within 1-2 hours to a tough and chemical resistant final cure.

Strength	1,200 PSI
Set Time	15 Minutes
Cure Time	Two Hours
Cure Color	Off White/Grey

SHIMICOAT Epoxy Putty adheres strongly to most surfaces including Aluminum and other metal surfaces, Concrete, Cement Render, Stone, timber and even cleaned glass surfaces. Ideally suitable for repair and maintenance of cancerous concrete surfaces, reinstituting failed cement render, stone and marble-sheen surfaces. As a repair and maintenance product, SHIMICOAT Epoxy Putty is also suitable for miscellaneous engineering use, such as structural bonding of concrete and other masonry, including granite and ceramics.

APPLICATIONS

AREAS OF APPLICATION

Epoxy Putty is a multipurpose product for use in marine constructions and industrial applications. It is suitable for making elastic, vibration-resistant joint seals, in both interior and exterior surfaces.
Epoxy Putty bonds well to most marine and industrial surfaces such as concrete, bricks, tiles, wood, metals, ceramic materials, plastics and epoxy coatings.
Epoxy Putty must not be used to seal plastics that are prone to stress cracking (Plexiglas, Polycarbonate, etc.).
Once cured, SHIMICOAT Epoxy Putty can easily be sanded as required.
We recommend test with actual substrates and conditions have to be performed to ensure adhesion and material compatibilities.

The adhesion, toughness and chemical resistance of SHIMICOAT Epoxy Putty have been optimized in unique combination for use in the repair of:

- Swimming pools and other aquatic facilities
- Pond, Cold Plunge and Ice Bath
- Concrete floors and stairs
- Concrete tanks and pipes
- Natural stone, brick and ceramic surfaces
- Grouting applications
- Concrete Crack Repair
- Joint Filler of all sorts

BENEFITS

- Ideally suitable for marine and industrial applications
- Bonds well to a wide variety of substrates
- Excellent ageing and weathering resistance
- NO odour / NO Volatile Organic Compound (VOC)
- Non-corrosive
- Can be over painted almost immediately
- Can be sanded to your desired shape
- Easy DIY, Creamy texture, easy to mix and apply
- Minimal sagging on vertical surfaces
- Extended pot-life with quick progression to cure properties
- Fastest repair method to progress into initial coating
- SHIMICOAT Epoxy Putty can cure simultaneously with initial coating
- Cured properties are much superior to high strength concretes with greater MPA values
- Pure putty with 100% solids compound

Kit Sizes

SHIMICOAT Epoxy Putty is available in many kit sizes:

Packed in durable plastic jars.

Kit Sizes (Wt)	Mix Ratios	
250g	4A:1B (200g A + 50g B)	69
600g	4A:1B (480g A + 120g B)	99
1,250g	4A:1B (1Kg A + 250g B)	199
2.5Kg	4A:1B (2Kg A + 0.5Kg B)	299
5kg	4A:1B (4Kg A + 1kg B)	499

Kits Include

- Epoxy Putty Part A
- Epoxy Putty Part B

Coverage

Mix enough putty to fill your point of application.

Applications

Spatula, trowel, brush, custom design applicators.

Curing Time at 25°C

Pot Life:	20 minutes at 25°C	
Tack Free:	Half Hour	
Dry Cured:	1-3 hours (depending on temperature and humidity)	
Re-Coat:	If need to sand the surface:	1-3 hours
	If applied clean and no need for sanding:	Instant

Clean Up

Thinner & Diluent (Blend of Solvents). Use EpoDil.

Pot Life @25°C	20min	
Colour of Blend	Neutral Grey N23	
Specific Gravity (SG) of Blend	1.2	
Initial Cure Time (Hours)	1-3Hours	
Ultimate Cure Time (Days)	7 Days	
Recoating	If need to sand the surface: If applied clean and no need for sanding:	1-3 hours Instant
Viscosity	Paste consistency	

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
If concrete surface, acid-wash to enhance surface porosity and etch the surface for better bonding. 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 or sanding (80 or 120 Grit) and removal of loose materials. Grinding or sanding 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 SHIMICOAT Epoxy Putty:

Parameters	Part A	Part B
Consistency	Thixotropic Paste	Thixotropic Paste
Colour	Neutral Grey N23	White N14
Mix Ratio	4 Parts by Vol or Wt	1 Part by Vol or Wt
Mixing Technique	Mix until colour is uniform	
Pot Life	20 minutes	
Initial Cure Time	1-3 Hours	
Full Cure Time	7 Days	
Recoating	Instant	

Storage

The products shall be stored out of direct sunlight and heat. The shelf life of the product is 24 months.

Direction / Second Kit-Pond Epoxy

Pond Epoxy / Ice Bath Liner provides major functional benefits and added values through enhanced performance of impervious surface coating:

- Durability,
- Easy cleaning feature, Easy Mop, Easy Wipe.
- Enhanced Mechanical and chemical resistant properties,
- Fire resistant properties,

Usage:

Typical Pond Epoxy applications may require 2 – 3 coats.
Multi-coats of Epoxy can always be recommended for longevity and better performance due to underwater conditions.

Ice Bath Volume	Application	Kit Sizes
Up to 500Lt	Single Coat	2 Lt
Up to 500Lt	Double Coats	4 Lt

Do NOT store any leftovers, it is OK to apply additional coats.

Temperature & Humidity:

Ideal Temperature	Ideal Humidity
24°C – 30°C	Below 50%

SHIMICOAT recommends indoor applications where possible. If outdoors, try to apply; when minimum wind and no rain expected, as they both may have detrimental effects on your surface coating. Wind may blow leaves and dust over your wet epoxy surface. Rain may cause whitening effects on your epoxy surface.

Surface Preparation:

- Sand the surface with 80 or 120grit sandpaper prior to commencement of Epoxy application. Ice Bath walls can be sanded manually to avoid any damage to the surface.
- For corners and those hard-to-reach surfaces, you may consider using wire brush with extra care to ensure no damage on walls.
- Remove all loose surface materials including any possible rust or corrosion.
- After sanding, wipe the entire surface with Xylene, Acetone or IPA (Isopropyl Alcohol) using a microfiber cleaning cloth. Solvents should not be in contact with skin, please use PPE as advised on MSDS of the product used.

Seal the Seams

Seal all seams and the compressor fold with 2-part epoxy putty. Once cured and solid (8-12 hours), sand the surface with 80 grit sandpaper. Vacuum the dust, and using microfiber cloth wipe with Xylene, EpoDil, IPA (Isopropyl Alcohol) or Acetone. Commence Pond Epoxy application.

Do *not* seal the seams with silicone, moisture-cure polyurea, marine adhesive, or caulking of any kind because Pond Epoxy may not adhere to the surface, and delamination may occur overtime.

Pond Epoxy Application:

- Use brushes for corners and edges.
- Use rollers for wide areas, microfiber rollers are idea:
  - Mini Micro-Rollers 4mm Nap, or
  - Standard 230mm Miro-Rollers 10mm Nap
- Consumables such as brushes and roller sleeves are disposable, use a different brush or roller for each coat.
- Switching between brush and rollers can result in more even finish surface.
- Apply a minimum of two coats, or as many coats as you wish.
- Subsequent coats shall be applied within 72 hours, for longer intervals, sanding may be required.
- Focus on walls and Apply walls first, multi coats.
- Apply rich on corners using paint brush.
- Polyurethane Topcoat shields the surface against any possible discoloration, caused by chemicals present in water, such as pool chlorine Sodium Hypochlorite.
- Always monitor the surface for an hour or two after application. If there is any visible imperfection or bubble, use hair dryer or mist spray IPA (Iso Propyl Alcohol or Ethanol) to eliminate possible surface abnormality.
- The finish surface shall be glass mirror finish with high gloss.
- If desirable, Matting agent can be added into Epoxy to achieve Matte Finish Surface.
- SHIMICOAT Epoxy has a great coverage ability and can be applied to both floors and walls easily.
- Mix thoroughly for a minimum of 1-2 minutes manually or with mechanical mixer at low speed (750rmp Max). If mixing smaller portions, mix at a ratio of 3A:1B by volume. For example, to prepare 2Lt mix, add 500mL of Part B (Hardener or Curing Agent) into 1.5Lt of Part A (Resin). Mix for 2 minutes.
- Ensure surface to be coated is dry, run moisture test. Moisture can cause blooming and delamination.
- Pot life is approximately 30 minutes, work within 20min to ensure easy flow application.
- Use steady long strokes and avoid overworking the roller or pushing your roller too quickly as this may trap air bubbles in the coating.
- If outdoors, do not apply if rain is expected within 24 hours of application.
- Keep the containers closed & sealed when not in use. Avoid application on hot surfaces.
- If applying Polyurethane/Chemical Resistant Clear Epoxy Top Shield, mix the product UVthane PLUS/Epoxy at the right ratios as stated on label, mix for 2-3min, roll over the surface evenly using brush or rollers.

Drying Times

Pond Epoxy / Ice Bath Liner cures in 8-16 hours at 25°C. High temperatures and windy conditions may speed up the curing process.
Full hardness is achieved after 7 days. Pond can be filled with water after 48 hours of application.

Temp °C	Pot Life (min)	Surface Dry (Hours)	Initial Cure (Hours)	Recoat Time (Hours)	Fill the Pond (Hours)	Fully Cured (Days) UNDER WATER
10°C	45	12	24	24	48	7 Days
20°C	40	10	18	18	36	7 Days
30°C	35	8	16	16	24	7 Days

WARNING

- Direct sunlight and UV radiation my result in chalking, colour variations and yellowing effect over time. This kit is designed for underwater conditions and out of direct sunlight.
- If using pool chemicals, the surface MUST be shielded with Polyurethane or Chemical Resistant Clear Epoxy to ensure no discoloration or chalking effect.

Direction / Third Kit-Chemical Resistant Clear Epoxy *Topcoat Shield*

Surface Preparation:

No Surface preparations required over freshly applied Pond Epoxy. So, commence with application of Clear Topcoat as follow:

Mixing:

Mix Ratio: 2A:1B by weight or volume. Mix thoroughly for a minimum of 3 minutes manually or with mechanical mixer at low speed (750rmp Max). If mixing smaller portions mix at a ratio of 2A:1B by weight. For example, to prepare 1.5Kg mix, add 500g or Part B into 1.0Kg (1,000gr) of Part A. If colour required, add SHIMI COLOURS to the kit and mix again thoroughly.

- Ensure the surface 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.
- New concrete should be allowed to cure fully (at least 20days) before application.
- Keep the pail sealed when not in use. Avoid application on hot surfaces.

Curing Times

Chemical Resistant Clear Epoxy cures in 8-12 hours. High temperatures and windy conditions may speed up the curing time.

Temp °C	Pot Life (min)	Surface Dry (Hours)	Initial Cure (Hours)	Recoat Time (Hours)	Fill the Pond (Hours)	Fully Cured (Days) UNDER WATER
10°C	45	12	24	24	48	7 Days
20°C	40	10	18	18	36	7 Days
30°C	35	8	16	16	24	7 Days

Fill the pond with water after 48 hours.

WARNING

- Direct sunlight and UV radiation my result in chalking, colour variations and yellowing effect over time. UV resistance topcoat “UVthane PLUS” or Acrylic Sealers shall be used under sun surfaces.

Storage

The products shall be stored out of direct sunlight and heat. The shelf life of the product is 24 months, mix individual components uniformly for 3 minutes prior to use to avoid any possible settlement/precipitation and ensure uniformity of your product.

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.
This information and all further technical advice are based on our present knowledge and experience.
The customer is not released from the obligation to conduct careful inspection and testing of supplied goods.

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