

EPOTEC Coated Swimming Pools

DIY Application Procedure for Home Pool Owner

(With appendix to look after EPOTEC and pool water)

1. Introduction:

***Congratulations**, you have purchased a high quality epoxy pool coating which will when applied correctly will give you many years of great service.*

PLEASE FOLLOW THE DETAILS BELOW.

We've laid out the Application Procedure in sections so you can easily follow it.

It's quite comprehensive, however not all sections will apply to you, so select the ones that are relevant.

We have tried to cover most situations, though if you are not sure, please ask, before continuing.

The EPOTEC Epoxy Hi Build system will provide a long lasting, protective finish to correctly prepared surfaces.

Done well you can expect a 7 – 12 year life before a recoat is necessary with domestic pools.

Surface preparation is a key aspect in getting the best performance from your pool coating.

It probably represents 80% of the overall success. So spend time and do it once and do it well. You'll reap the rewards for doing so, for many, many years.

We want you to have a great result. One you'll be proud of now and many years into the future.

Also there is a lot of useful material to guide you at **Handy Hints** and we will indicate this with "HH" in the margin throughout these notes. Visit: www.diypoolpaint.com.au and follow links.

All data given and statements and recommendations made are based on our research and experience and are believed to be accurate. However they are for guidance only and as no control can be exercised by this company over the end usage, no guarantee or their accuracy is made or implied. It is recommended that the user makes their own tests to determine the suitability of the product for their own requirements.

2. Before You Start

Before you start work on your pool give some thoughts to the overall project. Plan it in easy to manage stages. That way what seems daunting to start with will become a set of easy to accomplish stages which will give you confidence and satisfaction as each step is completed.

The main steps are:

- ✓ Check the weather conditions for the next week or so.
- ✓ Check safety and health issues.
- ✓ Empty the pool.
- ✓ Observe the condition of the pool surfaces, any surprises? (loose, drummy, rust spots etc).
- ✓ Carry out the surface preparation, thoroughly, (usually about 2 - 4 days).
- ✓ Once all is ready, mix and apply the EPOTEC in two coats, allow 2 – 3 days.
- ✓ Allow 5 – 7 days for curing before refilling pool.
- ✓ Add pool water chemicals and start the fun.
- ✓ NOTE: Some areas have water restrictions...check with your council/water supplier first
- ✓ See our web pages designed for you: www.diypoolpaint.com.au, including "Handy Hints".

3. Weather

Epotec application work is best undertaken when the weather is warm and sunny. (Light winds and a daytime temperature range of 15 to 25 C are ideal) This can't always be arranged, so is often best to wait a few days till the weather is more conducive to good results.

Application outside these conditions is feasible, though not lower than 13 C nor much hotter than 30C, shade temp. If too hot you will be uncomfortable and not do a good job. Application is best done in the early morning. (See Section #9). Using a gas heater can help warm cold areas. (Or electric if inside enclosed space)

Painting when rain is expected within 6 – 8 hours of application is not desirable. **Wait for better conditions.** (If it gets water on it, may form a white bloom, which is aesthetic only, see Section 16.11 below) **HH**

Generally surface preparation can be undertaken in colder, wetter or hotter weather than when actually painting. Just be aware of the weather conditions as to how they will affect **your** desire to work in them!!

A well fixed tarpaulin / marquee can help mitigate some bad, wet, cold or hot weather and if used make sure it's anchored to prevent being blown away or rain running into the pool. It will help prevent **dust blowing** onto wet EPOTEC. (Wind blown dust leads to rough/hard/gritty finish which is uncomfortable to touch). If in a leafy area consider a temporary shade cloth to prevent leaves falling on wet paint. **HH**

4. Health and Safety

SAFETY IS NO ACCIDENT

Working around a pool requires care. Make sure you or your children (and pets) do not fall in while you have the gates open and are working in the pool.

- ✓ Be aware of where the pool edge is at all times
- ✓ Move pots, ornaments and furniture away from the pool.
- ✓ Give yourself plenty of room.
- ✓ Do NOT mix electricity and water, use electric tools with a ground-fault detection system.
- ✓ When using equipment follow safety procedures
- ✓ When using cleaning chemicals protect skin, eyes, hands and clothes
- ✓ If grinding or sandblasting, protect eyes, ears and breathing with suitable products
- ✓ When using EPOTEC protect yourself properly. (See details later)

5. Emptying the pool: *(See Handy Hints on our web site for more details / pictures of pool emptying, prepping and application process)* www.diypoolpaint.com.au/handy-hints/

You will need to empty the pool and it may be done via a siphon, a submersible pump or sometimes the back wash feature on your pool. A siphon will take the longest, maybe 24 hours or longer. An electric submersible pump, from a hire company, (Kennard's) will usually take 10-12 hours and cut off when near empty. (You can purchase a submersible pump for about \$250.00 from good plumbing suppliers). **HH**
You will usually need to keep the hire pump for several days to empty out the cleaning residues.

When emptying pools note the following:

- A Hydrostatic valve should be in the bottom of Fibreglass pools and often others too. **HH**
- It needs to release any ground water that is under the pool, **into** the pool, so as to relieve pressure.
- Such groundwater is pumped away as the pool is nearly or completely empty.
- Check that the pool has such a valve, especially Fibreglass ones, if not proceed carefully.
- You may choose to empty the (Fibreglass) pool in 1/3rds to see if any issues. (1/3 each day and monitor result, and watch to see it does not "pop out", and if it does refill quickly).
- If pool at bottom of dip, in wet soil or near sea or lake, then ground water may be an issue.
- Some pools (Fibreglass) may have an inspection point (stand pipe) near pool to check ground water level, **before** emptying. Usually it shows as a grating near the pool in the surrounding paving. It may be connected to a porous/aggregate drain around the pool bottom. If water table high, insert flexible hose and attempt to pump the excess water and lower water table, using this feature. **HH**
- Hydrostatic valves may leak after pool is empty, this can be dealt with by using a 1 Metre x 50 mm stand pipe screwed into a Iplex 50 mm Press Adapt Valve, **HH** (see a good plumbing supply) which is screwed into your pools Hydrostatic valve fitting. Or fit a hose or build a dam and pump out as needed.

- Bracing may be needed across pool (Fibreglass) to stop walls bending. Use screw jacks or timber as needed, (3 - 5 usually) across the pool with large pads to spread the load, about ¾ way up the wall from the bottom. You will need to move them to paint behind them. **HH**
- Consider replacing the Hydrostatic valve, when pool empty. (See your pool shop).

Most pools in “dry” Australia are fine when empty though should not be left too long in this state, especially fibreglass ones. Marblesheen pools can dry out and become frail if left empty in hot weather.

Use common sense and be ready for any issues which may arise.

6. Equipment and Safety:

Having the right equipment for the job at hand will make for a better result.

Empty Pool: Submersible Pump **HH** (hire) or hose for siphon and waste water outlet from property.

Surface Preparation:

General: Brooms, rags, buckets, sponges and old towels, respirator and suitable filters.

Sandblasting: sand/abrasive/soda blaster contractor will bring everything. Make sure the contractor takes away all residues unless you agree otherwise.

Grinding- Sanding: angle grinder (hire) and plenty of discs, (Flex O vit from ZEC)(Norton F827 Z24) (Jasco Flapper) or Orbital Sander, goggles, dust masks, overalls. **HH**

Water blasting: water blaster (1500 psi for general cleaning, 5000+ psi for old paint removal) (hire), **HH** overalls, gloves and full face mask or goggles.

Acid Etching: overalls, gloves and full face shield or goggles, plastic buckets, broom. Hydrochloric Acid.

Cleaner/Degreaser: Such as Peerless Chemicals “Cleanshop” from Bunnings. (Water based degreaser)

Algaecide Treatment: Such as Lo Chlor Tropiclear / Tropical Pool Algaecide (from most pool shops)

Application:

EPOTEC: overalls, gloves (disposable), goggles and barrier cream (to make it easier to wash your skin)

NOTE: Appropriate shoes should be worn at all times and have some clean rags handy along with fresh water, soap and a towel. Wash hands before consuming any food or drinks.

Mixing: “Flat” plastic stick

Application: Roller tray, Roller Handles and Extensions. 370 mm wide is suitable, (wider makes corner work difficult).

Brushes: 35 - 50 mm, professional quality. (\$10 -15).

Roller Sleeves: (e.g. Draylon, Mohair or similar, solvent tolerant). Use 8/10/12 mm nap (15 - 25 mm for Pebblecrete). (Use short nap for smooth and longer length nap for rougher/uneven surfaces) Buy good (\$15 - 25) quality. Can use lambs wool sleeves on rough/uneven surfaces.

Masking tape: (Painters Green Masking Tape)

7. Materials:

EPOTEC High Build Epoxy packs (3kg or 9kg) in selected colour(s), EPOTEC Thinners 4 or 1 Litre cans.

Check Colours - Name/Description see Section #13 below.

Polyester based. For fibreglass pools, for worn areas & holes, use fibreglass repair kits ex Bunning’s.

Epoxy grout, as needed for repairing drummy areas, holes etc:

- (e g) Bostik’s Patchfix Epoxy Paste, ph 1800 621 221
- Vivacity Engineering. Pty. Ltd’s Megapoxy PM or P1, ph 02 9875 3044
- or Sika’s Sikadur-31 ph 1300 22 33 48

Cement based Fillers for repairing drummy areas and (blow) holes etc: (must be suitable for water immersion)

- (e g) Bostik Findley Patchfix Structural HB or FS, ph 03 9279 9222
- Selleys Quick Crete ph 1300 555 205 (Usually available through Bunnings)
- Davco Colour Grout. (see Section 8.9 below)(From Bunnings and Tile shops)
- Sika Mono Top 620 ph 1300 22 33 48

Sealants for moving joints from Parchem (ph1800 624 322) Need to be Chlorine Resistant, such as Emer seal CR

8. Surface preparation:

All surfaces **must be** clean, dry, sound and stable, before application.

- EPOTEC will not bond to contaminated surfaces.
- May be applied only to concrete/plaster surfaces, previously epoxy painted, Marblesheen, Pebblecrete and Fibreglass.
- Not usually suitable for Acrylic Surfaces (Spas).
- Not suitable on Chlorinated Rubber or Acrylic painted surfaces.
- Make sure not subject to hydrostatic water movement (seeping water from behind).
- Some surfaces, such as plaster/render, Marblesheen/Pebblecrete may have drummy areas. (That is areas where the surface has become detached from the underlying concrete and when tapped sounds hollow or drummy! Use a coin, screw driver, old brick, stone, hammer or broom handle to tap your way around the pool, mark "hollow" areas as you go). Remove anything bigger than about 40 - 50 mm across.

8.1. New Concrete / Concrete Block / Brickwork (plaster/rendered):

Ideally should have a "light" wood float / sponge finish and walls to be structurally sound, (reinforced). Concrete block needs to be rendered first (or at least well "bagged" and stoned to give a reasonable surface).

- No major cracks should be visible. If in doubt contact us first.
- Allow concrete to cure correctly for 28 days.
- For newly applied render, should cure correctly for 7 - 14 days.
- Make sure no oil, grease, release agents on surfaces.
- Fill any blow holes, sand flush. Use an epoxy/Selleys Quickcrete or refer Section 8.9. (if many)
- Wash down with warm water/detergent and stiff brush.
- Rinse well to ensure all detergent is removed. Water blast (mild) is better.
- Then Acid Etch, refer Section 8.7.
- Allow to dry

8.2. Old Concrete/Plaster Surfaces:

These surfaces will usually harbour many fats, algae and mould if not protected while pool has been in use. They may be stained, cracked and drummy. However if well prepared and coated will provide long lasting, attractive, easy clean finish.

- Carefully check all surfaces, tapping to find "drummy" areas and digging into soft locations, to understand the extent of the condition. **HH**
- Remove all such material with cold chisel to expose sound surface underneath and nearby.
- Any rust spots also need to be dug out to solid concrete and around rusty steel to fully expose including to the rear. Wire brush to remove loose flakes. Treat exposed steel with an anti corrosive primer. (From hardware or paint shop). It is not likely you can stop rust coming back in adjacent areas as water runs along re bars and the rusting will start nearby again and break through a few years later. **HH**
- Rebuild surfaces to match existing with epoxy mortar if areas small. Other wise use a Cement based Filler (see Section 7 above), for larger areas. Also see Section 8.9. Allow to cure. Sand flush to match adjacent areas.
- Make sure no grease, suntan or body oils on surfaces. Wash down all areas with warm water/detergent (Commercial Degreaser) and stiff brush. (Medium pressure water blaster with detergent feed okay). Thoroughly rinse well to ensure all detergent is removed. Repeat cleaning treatment if in ANY doubt, especially at water line (top 300mm) and on steps or where people sit. Can use Tri Sodium Phosphate as alternative cleaner. Sugar soap is NOT recommended.
- If necessary apply algacide to kill algae roots. See Section 8.8 below.
- Then Acid Etch, see 8.7.
- Allow to dry. (2- 3 warm / windy days).

8.3. Previously Painted (Cement, Fibreglass, Marblesheen or Pebblecrete) Surfaces:

Such surfaces may be chalky, whitish or flaky and with good preparation will produce a long lasting finish. There may be algae present as well. Need to check paint type, see below.

- Carefully check all cementitious surfaces, tapping to find “drummy” areas and digging into soft locations, to understand the extent of the condition. Also check for rust stains. Follow directions in Section 8.2
- For painted Fibreglass surfaces, follow directions in Section 8.4, as well.
- Make sure the existing coating is not Chlorinated Rubber, (check by cleaning a small area with soapy water and dry off. Soak a portion of clean white rag in Xylol / Xylene solvent. (or EPOTEC Thinners or Acetone/Nail Varnish remover). **HH**
Hold the wet solvent rag on an area of about a 50 cent coin, for 20 - 30 seconds. Then slowly rub and remove rag.
If the coating dissolves back to the substrate, with colour saturating the rag and also the moist paint forms “sticky” strings if touched repeatedly with the finger, the paint is most likely Chlorinated Rubber.
- This can also be done with pool full of water, but you but you will need to be quick so as to see the result and not put too much solvent into the pool water.
- Epoxy paints are not dissolved by Xylol (EPOTEC Thinners/Acetone) and may be over coated.
- Others (or not sure), call us

If it is **Chlorinated Rubber (Or Acrylic/Oil Based** – both unusual in pools) paint, all these are NOT compatible with Epoxy. They must be removed before applying EPOTEC.

- This is best done by Sand (Abrasive) or Soda Blasting, carried out by a professional. It’s not easily done by a home owner. Make sure the blaster understands how to remove the paint without disturbing the underlying surface. If in doubt contact us first. They may leave an area of up to 50 mm around tiles etc that you will have to hand prepare. **HH**
- You may choose to grind it off as an alternative. High pressure water blaster (5000+ psi) may also be successful.
- Chemical cleaning using thinners such as Acetone or Paint Stripper is possible though usually for small areas only.

For **Epoxy painted** areas:

- Thoroughly clean surfaces by scrubbing with detergent solution (to remove body fats etc) or water blast with detergent feed and thoroughly rinse to remove washing residues. See Section 8.2 above for more details. Can use Tri Sodium Phosphate as alternative cleaner. Sugar soap is NOT recommended
- Remove all loose, flaking and degraded paint by machine grinding or sanding (wet and dry #60 grit paper with orbital sander) or wet/dry (sweep) sand or soda blasting. Sand blasting by a skilled operator usually provides the best solution. The end result should be a profile of about 60/80 grit. **HH** Clean and remove all debris, with clean, fresh water wash (mild water blast).
- High pressure water blaster (5000+ psi) may also be successful in removing oxidised, loose epoxy as an alternative to abrasive blasting. Check effectiveness however.
- If necessary apply algaecide to kill algae roots. See Section 8.8.
- Only where concrete/plaster exposed by grinding/sanding/blasting, then these should be acid etched and rinsed thoroughly – see Section 8.7.
- Allow to dry, (2- 3 warm / windy days).

8.4. Fibreglass Pools:

Most pools will have a degraded, whitish surface, which responds well. Any small cracks may be safely ignored. If you see any of:

- Larger cracks, holes or defects
- Osmosis, bubbles blisters etc
- Black spot may also be present
- Fibreglass Fibres or Brown stains then contact us first.

NOTE: Fibreglass pools come in different levels of quality and may be structurally weak from a range of issues during their life. If your pool seems in poor condition seek advice from a fibreglass or pool professional. See Section 5 above about emptying pools.

- Make sure no grease, suntan or body oils on surfaces. Wash down with warm water/detergent (Commercial Degreaser) and stiff brush. Rinse well to ensure all detergent is removed. Water blast (mild) is better. Repeat treatment if in ANY doubt, especially at water line (top 300mm) and on steps or where people sit. Can use Tri Sodium Phosphate as alternative cleaner. Sugar soap is NOT recommended
- Need to remove oxidised gel coat ONLY. Abrade by machine disc sanding / orbital sander (#60 grit wet / dry paper or ZEC disk) the entire pool surface to be painted paying particular attention to all discoloured and degraded surfaces. Finished surfaces should be an evenly roughened, matt surface all over the pool. Any missed areas will result in blistering of the EPOTEC High Build Epoxy. Be careful not to dig into surface beyond gel coat level. (Gel coat is usually 1 – 2 mm thick).
- Repair any surface irregularities / holes with suitable epoxy filler, (Megapoxy or similar) or if not available a Polyester Filler may be used, (usually available from most hardware shops). Follow directions of manufacturer. Sand smooth when cured.
- If the fibreglass fibres (white strands) are visible before repairs start, contact us.
- Once Fibreglass repaired areas cured then scrub down with detergent and water using a stiff bristled brush or water blaster. Then wipe with Acetone, to make slightly tacky, immediately before coating.
- If necessary apply algaecide to kill algae / black spot roots. See Section 8.8.
- Thoroughly rinse off all detergent/residues with clean fresh water and allow to dry.
- Acid etching is NOT needed, however see 8.7.

8.5. Marblesheen or Pebblecrete and Mineral Finishes (See Section 8.9):

These surfaces over time become dirty, cracked and even soft, missing and with care can be upgraded successfully.

- It is necessary to carefully check all areas, tapping to find “drummy” areas and digging into soft areas, to understand the extent of the condition. Refer to beginning of Section 8 for more detail.
- Remove all such material with hammer, cold chisel to expose sound surface underneath and near by. Abrasive Blasting is NOT recommended. **HH**
- Any weak, unsound or friable areas should be removed by grinding as they may fail later on once coating has been in service for a period. Repair is best done as per Section 8.9. In some pools up to 40% has been found to be faulty and replaced. Also Cement Aid’s Diamite (02 9810 0725) has been found to be suitable to strengthen friable Marblesheen, before Epotec application and to reduce possible delimitation issues.
- Any rust spots also need to be dug out to solid non rust stained concrete and all around rusty steel. Wire brush to remove flakes of rust. Treat exposed steel with an anti corrosive or rust converter primer. (From hardware or paint shop). It is not likely you can stop rust coming back in adjacent areas as water runs along re bars and the rusting will start nearby again and break through a few years later. **HH**
- Rebuild surfaces to match existing with Epoxy if small or use a sand cement mix (see Section 7 above for materials to consider), for larger areas. Also see Section 8.9 about repairs to larger areas. You may be able to purchase some aggregate/pebbles to provide a profile like the original and imbed into wet filling material.
- Make sure no grease, suntan or body oils on surfaces. Wash down with warm water/detergent (Commercial Degreaser) and stiff brush. Thoroughly rinse well to ensure all detergent is removed. Repeat cleaning treatment if in ANY doubt, especially at water line (top 300mm) and on steps or where people sit. Can use Tri Sodium Phosphate as alternative cleaner. Sugar soap is NOT recommended
- If necessary apply algaecide to kill algae roots. See Section 8.8 for details.
- Thoroughly rinse off all detergent/residues with clean fresh water and allow to dry.
- Acid etching recommended, to better prepare the surface. See Section 8.7

8.6. Vinyl Liner Pools: (Not above ground pools)

Over time the vinyl liner usually becomes brittle, fades and tears. Some owners have decided the cost of a new liner is too much and prefer to coat the surfaces more effectively. This can be done with some pools. You will need to check you pool carefully before proceeding. After removing liner and all fittings check that:

- The floor and walls are of concrete, (concrete block / brick – rendered) and in a stable state. (Ideally they all should be of reinforced concrete with no major cracks.)
- Some pools have a panel based wall system often about 30 - 50 mm thick. This may not be suitable for coating as ground water can pass easily through them and cause blistering of any coating applied on pool side. (This can only be prevented if a damp proof coating applied to rear of panels at installation time, which is unlikely)
- All joints between wall units, also between walls and floors need to be water proof and may require cutting out and filling with an epoxy grout (or flexible sealant).
- Treat concrete surfaces as per Sections 8.1 and 8.2 above.
- If not sure contact us to discuss first.

8.7. Acid etching. (for ALL calcium stained pools too)

To remove laitance, (a fine cement powder on surface) and open the pores, plus neutralise the alkali surface, Acid etch with Hydrochloric Acid, and water.

- Concentration to be 10%, no more. (1 part acid, (As bought) mixed with 2 (or more) parts water). Mix in a plastic bucket. Always add Acid to Water, not other way around.
- Wear protective clothing, goggles and gloves.
- Broom or brush onto surfaces, (about 2 sq M per L mixed).
- When fizzing stops (10 minutes), thoroughly wash all acid etched surfaces to remove all traces of the reaction. (Can neutralise surface with Bicarbonate of Soda, and rinse away all residues).
- **Don't allow ACID etching to dry out.**

Acid etching does not remove oils, fats, grease. Only detergent or sand blasting etc will remove oils, grease.

8.8. Algae removal:

Many pools will have algae growing in the surface pits and crannies. (black stains are a good indicator). When you come to paint it, it's important to kill the roots (to stop re growing through the paint) and an algaecide treatment can do this, as part of the cleaning process. After prepping the pool and having it ready to paint, an algaecide treatment is almost the last thing to do.

- Late in afternoon/early evening mix up a 5% solution of Algaecide, such as Lo Chlor Tropiclear / Tropical in clean water. (that is about 250 ml per 5 Litres water).
- Broom / brush it on all previously stained areas (or anywhere you think algae may have been – can do entire pool)
- Leave over night to react.
- Thoroughly rinse off residues and allow pool to dry.

8.9. Repairing Marblesheen (and cementitious surfaces) using Davco Colour Grout.

With a Marblesheen Pool (and some others) it may be useful to use **Davco Colourgrout** as a flushing and hole filling medium. (this has been used by some applicators and found successful)

The recommended procedure is as follows;

- 1 Thoroughly clean and prepare the Marblesheen as per the EPOTEC Application Notes, making sure all loose or drummy material is removed.
- 2 Allow Marblesheen to dry out.
- 3 Any larger holes may be filled first with Selleys Quickcrete to slightly below adjoining surface, with a roughish surface finish and allow to cure at least 24 hours.
- 4 Ensure all areas to be covered are free of loose material, dust, dirt and algae.
- 5 Apply **Davco Ultraprime** onto bottom of any holes, depressions to aid in adhesion. Do not over wet or flood, as will affect the curing of the Colourgrout. Over coat within 24 hours.
- 6 Mix **4 in 1 Davco Grout Additive** with equal parts of clean water.
- 7 Then mix this liquid in ratio of 4kg Colourgrout with 1 Litre of the diluted Additive.
- 8 Once mixed to a smooth paste, knife or trowel into holes, depressions, to slightly over fill. Max thickness 10 mm or so per layer.
- 9 If more than 10 mm thick, make in 2 layers and leave first layer surface rough and let cure overnight.
- 10 Use sponge on final surface whilst still moist to smooth out and reduce need for sanding.
- 11 Allow to cure over night and then sand back by hand or medium speed orbital sander and 40 – 60 grit paper.
- 12 Then overcoat with EPOTEC as per rest of pool.

NOTES:

- 1 Do not apply in temps above 40C or below 5C.
- 2 Ensure well pushed into depressions to get good adhesion.
- 3 Follow Davco Product Recommendations and Specifications
- 4 Davco available from most hardware and tile material suppliers.

TIP: When using epoxy mortars or urethane and silicone sealants, to smooth final surface when still fresh (uncured), wet out your fingers with a 5 % approx detergent / water mix and run over surface. This will smooth final surface. Use only enough mixture to stop mortar/sealant sticking to fingers. Can effect curing if too much used. Can also use on trowels for same result. Do not apply mortar/sealant to wetted surface.

8.10. Expansion Joints/Stress Cracks

Cracks are due to some movement either expected or unexpected and their cause needs to be considered. Expansion (Control) joints are designed to allow for movement and need to be treated as such.

Expansion joints: need to be filled with a flexible sealant in accord with the manufacturer's instructions, to maintain a water tight seal.

Stress or shrinkage cracks: should be checked and if non-moving filled with a suitable epoxy compound in accord with manufacturer's instructions. If moving, treat as for expansion joints. Drought effected pools may have these.

Random Cracks: if smaller than about 1 – 2 mm (hairline) maybe coated with Epotec as a "spot primer" before first overall coat, to fill them in. If more than this usually means area may be drummy (see beginning of Section 8) or there maybe some movement happening, in which case treat as per stress cracks.

Contact Parchem Toll Free (1800 624 322), for crack, joint filling materials, for recommendations.

These sealants may be over coated with the EPOTEC High build epoxy, however the epoxy may crack over time, as it's not as flexible as the sealant underneath. This should not be an issue, apart from aesthetics. Best to just take EPOTEC onto sealant, use tape for straight line.

We can provide additional information on how to handle such joints. Contact us.

9. Application: *(Before application check weather conditions. What is expected over the next day or so?)*

Before commencing application if there are any concerns about the condition of the surface, consult Hitchins Technologies Pty Ltd, Technical Department.

Commencement of application indicates acceptance of the substrate.

Best time to apply is in the morning starting soon after first light so as to finish by lunch time. This means about 6 – 7 am in Summer and 8 – 9 am in Winter. Allow about 4 hours for one coat to 70 – 80 sq M with one person. Don't be tempted to paint (late) in afternoon when evening dew will fall on still curing Epotec and may cause white marks. (See Section 16.11 for more details)

Ensure surface to be coated is thoroughly clean and dry to touch. **HH** Generally you may start painting even if light dew is still on surface, providing a warm sunny day follows.

Ponded water needs to be removed. Use sponges, old towels, blowers, heaters etc.

The **surface** temperature should be above 13 C for best curing and do not apply if surface temperature is below 10 C or is going to fall this low within 6 – 8 hours of application as curing will stop.

10. NOTES:

Is Surface Really Dry? HH

Some areas can seem dry on the surface, such as concrete and Marblesheen/Pebblecrete yet in cooler winter weather may be quite wet inside. So do check. If too wet, once painted with EPOTEC it will draw moisture under the coating and may cause blisters to develop. This will be more likely with darker EPOTEC colours. Such blisters will break when pool full and require recoating. Best deal with it when pool empty and they show up after first coat. Cut back, allow to dry out for several days and recoat.

To check if sufficiently dry, tape a piece of clear polythene sheet (400 x 400 mm) and leave for at least 16 hours. Do this over several areas of the surface. If there is moisture (droplets) on the underside of the plastic sheet, then it indicates there is too much moisture for good adhesion. Allow pool to dry out before application.

Before application check weather conditions. What is expected over the next day or so?

Masking:

It's always better to use masking tape to get straight line against tiles etc., rather than relying on a good brush technique.

You can remove masking as soon as last coat applied, avoiding stepping on wet EPOTEC.

Painting Smaller Areas;

Sometimes you may want to paint smaller areas, (eg Spas, Swimming lines) and normal kit is too much material. With care smaller amounts can be mixed in a clean plastic container (2 Litre Ice Cream Container) in the same manner as described below. Weigh out (not by volume) in the ratio of 5 parts resin to 1 part hardener. E.g. **1 kg Resin, 200 gms Hardener**. This will cover approx 5-6 sq M per coat. Use kitchen scales to weigh out. Mix well and let stand for 15 - 20 mins before use. DO NOT guess by volume, but **weigh** out amounts. Incorrect ratios will result in brown staining or uncured Epotec. We also have available a touch up kit available which covers about 1.5 Sq M in ONE coat.

Batch Numbers:

EPOTEC is made in batches and to ensure you have a uniform final colour make sure the batch numbers on the Resin tin (large one) are all the same for the final coat. Different batch numbers may be used in first coat. Batch number is on white printed label and will be 10xxxx, such as 100322.

Non Slip Areas: HH

EPOTEC may be somewhat slippery for the first few months as it settles down. If this may be an issue on steps and ramps there are 2 approaches you can use.

Lightly sand with wet and dry paper any affected areas, to leave a slightly roughened surface, without sanding through the coating! This would normally happen after pool has been put into service.

For a more definitive non slip finish at time of application (On therapy pools, ramps etc), apply first coat as per normal instructions, then while still wet, "Blind Out" with washed beach sand (about 1 - 2 mm size particles) so you see only the sand and no EPOTEC grinning through. Before applying second coat sweep / vacuum up loose sand and apply second coating as per normal instructions. (see Handy Hints **HH** for more detail). Other non slip materials can be used such as cork chips, ground rubber and glass balloons. Follow same procedure for them.

Murals and the like:

You may like to have murals on the pool walls using Epotec in selected colours. (See Project Gallery for ideas) These can be done in the following method. Prior to painting, draw out tracing paper tacked to the surface, what you want and where. Then remove and cut to shape. Transfer shape to heavy grade clear plastic film. Once pool painted, and within 72 hours of last coat, tape up pre cut stencils and draw or paint in outline etc. Remove stencil and complete painting. You can use Epotec Touch Up Kits for this. If good at free hand, or have an artist friend, then do so without the use of stencil. As a comment keep murals near upper 1/2 of wall to see to best effect. On floor any where seems fine. If too deep in water effect is often lost. To make different colours mix up sufficient Epotec Resin and Hardener (touch up kits) in the key colours and then mix together in any colour mix you require much as for oil paints. You have about 90 minutes working life. (don't forget to mix resin and hardener first, before mixing different colours together to get the colour you need). There are a good range of colours in touch up kits to create a wide range of colours and thus images.

11. Physical matters:

EPOTEC has the following characteristics.

Characteristics	Temperature	Value
Pot Life (max time to use after mixing)	15C	3.5 - 4 hours
	25C	1 - 2 hours
Minimum Application Temp	13C	ambient/ground.

Do not apply if surface temperature is below 10 C. Will not cure.

Cure time, 50% RH,	15C	25C
Touch Dry	8 -10 hours	3-5 hours
Recoat	minimum 16 hours	min 8 hours
Full Cure	7 days	7 days

Note: If recoat time is more than 72 hours the first coat will need to be lightly sanded with 60 grit paper.

Coverage rates, varies depending on the surface roughness.

See below for guidelines

Sq Metres Per 3 Kg, Kit or Pack	Smooth Surface Fibreglass / Painted	Medium Surface Plaster / Concrete	Rough Surface Concrete / Marblesheen	Porous Surfaces Concrete / Marblesheen /Pebblecrete
1st Coat	16 -18	14 - 16	12 - 14	10 - 14
2nd Coat	16 -18	16 -18	14 - 16	14 - 16

Desirable thickness (film build), per coat 160 microns dry approx, 320 microns dry in two coats.
(This is about 4 – 6 times thicker than ordinary house paint.)

12. Health and Safety: read EPOTEC MSDS.

1. Keep away from heat and open flames
2. Avoid breathing vapour or spray mist
3. Dispose of heavily contaminated clothing
4. In event of skin contact with the product, wash affected area thoroughly with plenty of cold soapy water containing a small amount of thinner. When clean liberally apply skin cream, or moisturising cream. Seek medical attention if warranted.
5. If splashed in eyes, hold open and flush with copious quantities of water for at least 15 minutes. Seek medical attention.
6. If swallowed DO NOT induce vomiting. Give 1-3 cups of milk. Seek medical attention immediately. Keep the label with you. Contains Phenol homologue 3% vv on liquid epoxy resin.

13. Mixing: HH

Check colours before you start; (description on can/carton gives colour)

Light Blue = SKY, Mid Blue = BONDI, Dark Blue = TASMAN, Devonport = PACIFIC

- Set up a location where the mixing can be done without contamination. (Use a flattened carton, or tarp. etc)
- Pour all the Hardener into the Resin container, (there's ample room) and hand mix with a wide flat stirrer.
- Do not entrain air into the mix as will cause aeration leading to porosity of the coating.
- Mix steadily for 3-4 mins, scraping the sides and bottom to get a completely homogenous mix. **HH**

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- Allow mix to stand for at least 20 minutes or a bit longer. This starts the curing. Don't skimp on it.
- Add (any) remaining Hardener which has settled on bottom of hardener tin and remix. Then use.

If mixing several batches at a time, write on each one the time, so as to use sequentially.

- For the first coat, where cutting in around tiles or where more penetration is required on weak or dense concrete, Marblesheen / Pebblecrete, the mixed material may be thinned with up to 250 ml (half the hardener tin) of EPOTEC Thinners, after standing for the 20 minutes.

To get correct coverage rates, before starting look at your pool and starting at the deep end consider how much say 16 - 18 sq M covers of the pool surface. (See table above for correct coverage rates)

Note: For **more information** and **video tutorial** please refer to our website page: www.diy-pool-paint.com.au/handy-hints/

14. Marking out areas: *(See the diagrams page 12 on for ease of understanding)*

Generally most pools are 9 x 4 M, and 1 - 2 M deep and have an area to be painted of about 75 - 80 Sq M.

However DO MEASURE your pool and work it out. See last page about how to do this.

As it's a wearing coating, EPOTEC slowly wears away. The greatest wear areas are at the bottom at shallow end and on steps and ledges. So it's desirable to have somewhat more material here than on walls or on the bottom at the deep end.

Also porous or rough surfaces like Marblesheen or Pebblecrete use a lot more material, see table above.

15. Applying:

EPOTEC High Build is best applied by Roller, (8 - 15 +mm nap), the rougher/more uneven the surface the longer the nap.

- Pour mixed material into roller tray. (after standing for **20** minutes at least)
- Apply such as to achieve the correct coverage rate, (see box above) over lapping the previous application.
- Do not go back over work after 3-5 mins. (Not a problem when overlapping next "band", as per Section 14).
- Ensure roller is kept wet, during application.
- EPOTEC is a high build material, so do not try to spread out to save material. If you do you will end up with insufficient material on the surface and its life will be much shorter. Keep a watch when doing ledges, top edges etc.
- The recommended coverage rates are designed to get you maximum life. **NOTE:** EPOTEC flows out very easily. Stay with the correct coverage rates.

Use a standard brush to "lay off" and "cut in". Roll in slow, parallel overlapping bands, to get material onto surface. **HH**

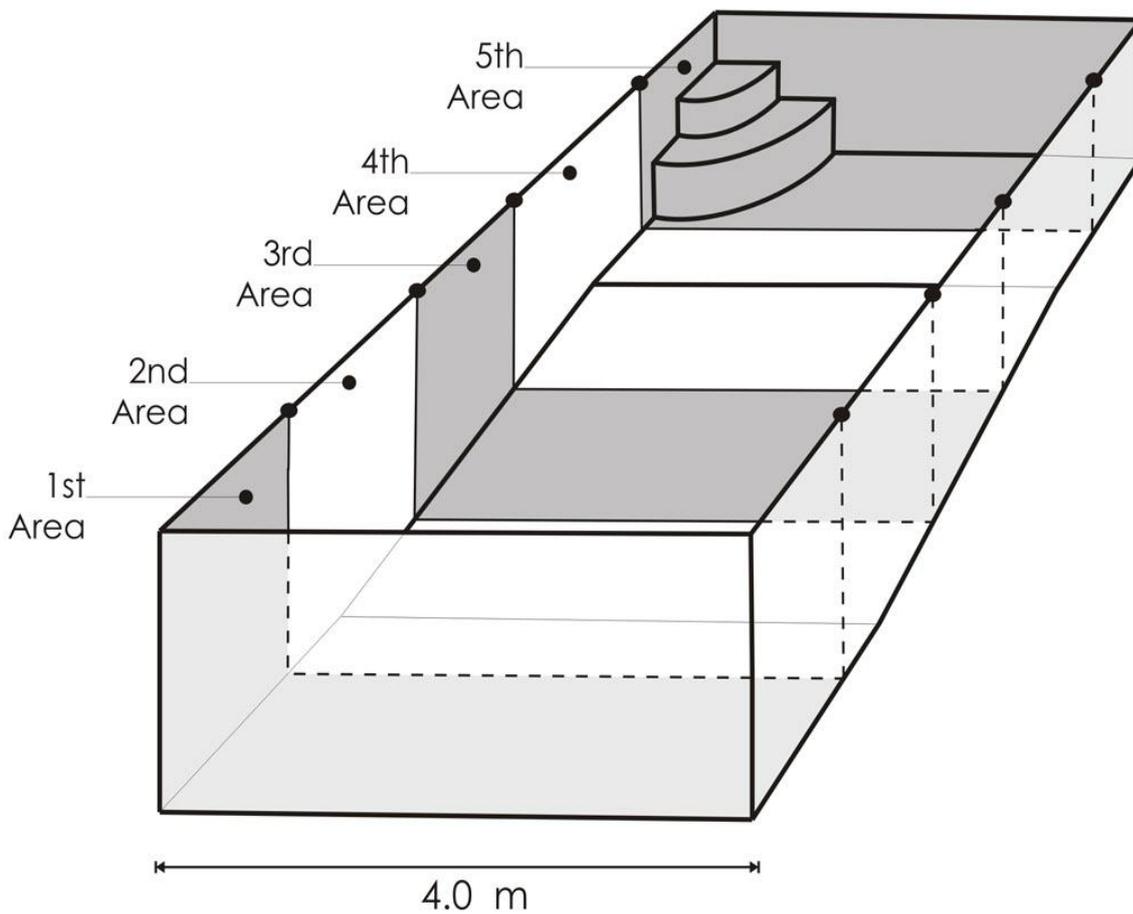
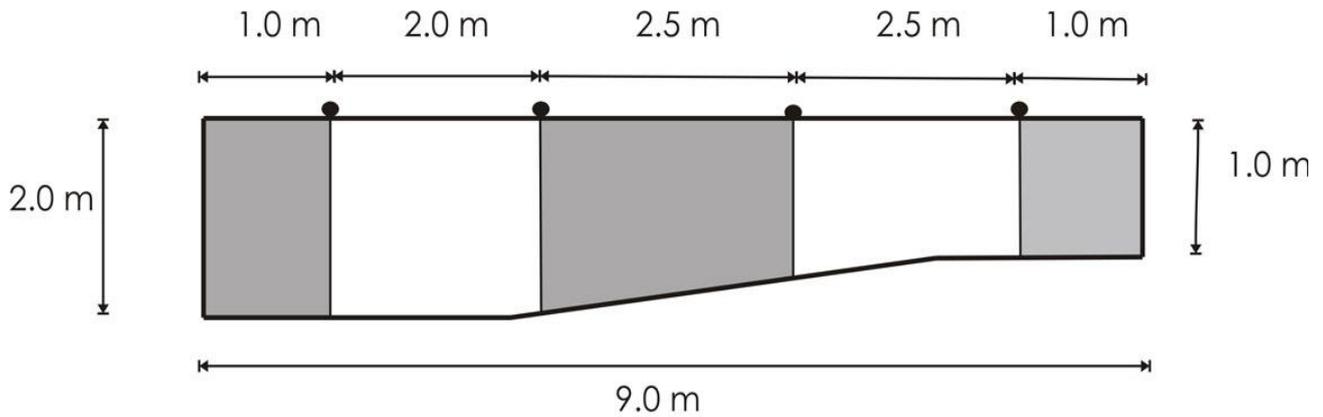
- Finish rolling in one direction for best results.
- Allow correct inter coat curing times. Wash up brushes, rollers with EPOTEC Thinners.
- Do not wash your skin with Thinners. Use rags and detergent to remove uncured material.
- Cured material will be difficult to remove, so wipe up any spills quickly.

Note: If you see bubbles forming in wet coating, especially when in sun, this signifies moisture from below breaking through the curing coating. If feasible stop and check substrate is really dry. Otherwise continue but you will need sand back "craters" that form, before applying second coat. Also check to see that they don't reform in second coat. A concern as water is still in substrate and may in time cause the coating to lift off. Refill pool promptly after cured, to minimise problem.

Note: For **more information** and **video tutorial** please refer to our website page: www.diy-pool-paint.com.au/handy-hints/

A Typical Pool.

(All values approximate)



Refer to Page 13 Making out Areas, for more details

In our example:

1st area to paint

Starting at the deep end, we find the end wall being 4 M wide and 2 M deep covers **8 sq M**. Coming along the sides of the pool 1 M will be 1M long and 2 M deep so covers 2 sq M, and we add the 2 sides together to get **4 Sq M**.

We also need to add in the bottom area which is 1 M long and 4 M wide so covers **4 Sq M**.

So we have $8 + 4 + 4 = \underline{16}$ sq M or approx enough surface for ONE mixed pack/kit.

2nd area to paint

Moving along the sides 2 M on both sides will give a strip down the side, across the bottom and up the other side of: Bottom 2M long x 4M wide = **8sq M** and Walls 2M long x 2M deep = **4 sq M** and we have 2 walls.

So $4 + 8 + 4 = \underline{16}$ Sq M. or approx enough surface for ONE mixed pack/kit.

3rd area to paint

A third strip with the depth now 1.5 M on average, 2.5 M along the sides gives approx **4 sq m** on each wall and **10 Sq m** on bottom = **18 Sq M**. (Bottom 2.5 x 4, Walls 2.5 x 1.5 x 2) or approx enough surface for ONE mixed pack/kit.

4th area to paint

A forth strip, 2.5 M along, with similar depth will give another **18 Sq M** (same sizes as above).

5th area to paint

Then we come to the last strip which includes the shallow end wall and a depth of say 1 M. End wall $1 \times 4 \text{ M} = \mathbf{4 \text{ Sq M}}$, the bottom $1\text{M} \times 4 \text{ M} = \mathbf{4 \text{ Sq M}}$, plus each side wall $1 \text{ M} \times 1 \text{ M} \times 2 \text{ walls} = \mathbf{2 \text{ sq M}}$, so total area is $= 4 + 4 + 2 = \underline{\mathbf{10 \text{ Sq M}}}$. Here because it's shallow there is more wear and tear on the coating so we make it thicker, (less sq M to cover with 1 pack) and thus it will last longer.

The result is 5 bands across the pool which gives an area of $16 + 16 + 18 + 18 + 10 = 78 \text{ sq M}$.

You can easily mark out the extent of each band using 4 stones/(bricks, whatever) placed along each side on the walkway at 1, 2, 2.5, 2.5 and 1 Metres apart respectively to guide you and ensure you have the right coverage rates. This would be for the first coat and require 5 packs. For the second coat adjust so you have 3 stones and will use 4 packs. That is just move them a bit farther apart and remove one set.

Please note this is an example, look at your own pool and determine the correct size. It's only a guide to help you see how far each pack should go. We just want you to have more material at the shallow end and not use it all up at the deep end!!

For other sized pools use this idea to get a good understanding of the coverage rates to be used.

16. Additional Application Notes:

1. If in doubt about cleanliness of surface, clean them again. Paint failure is usually as a result of poor quality surfaces. Fats and Oils prevent good adhesion.
2. Remove loose fluff from rollers (hand rub briskly) **HH** and loose bristles from brushes before you start. Otherwise they will end up in the wet coating causing a nuisance and a hard lump when cured.
3. Allow about 4-5 hours to paint one coat on your pool of 70 – 80 sq M.
4. Cut in around top first starting at deep end using a brush and masking tape if required.
5. Paint deep end wall, then move down a side wall a metre or so, (see Section 14 above) and finally onto the bottom. Then do as bands across pool, finishing at ladder or steps at shallow end. Wear soft soled shoes.
6. EPOTEC is a high build material, so do not try to spread out to save material. If you do you will end up with insufficient material on the surface and its life will be much shorter. The recommended coverage rates are designed to get you a long life, (7 -12 plus years).
7. Check weather, if rain is expected within 6-8 hours after completion of painting, DON'T start.
8. Ensure that minimum **surface** temp will be above 10C. Use tarp and heater to keep warm overnight.
9. You may start painting before dew has gone from exterior surfaces.
10. Finish painting before dew falls on surfaces. Ideal time frame is from 6 - 9 am (ish) am till 1 pm.
11. Don't allow water/dew to form onto uncured/partially cured paint, as it will "bloom". This will require a light sand the next day to remove and a recoat (in general) or leave to be bleached out by the chlorine over a few months. The "bloom" is unsightly but does not affect the performance of the EPOTEC. (This is aesthetic only). **HH** (More detail in the attachment)
12. Over coat after overnight (16 hours) curing. If more than 72 hours between coats, lightly sand before applying second coat.
13. Allow 5-7 days before re filling swimming pool.
14. Take your time to plan and carry out a quality application.
15. To calculate Pool Areas: (Approx area to paint)
Rectangular, Free form: max width (m) x max length (m) x 2.2 = area in Sq m

Lazy L, Oval (rounded end plus a sq end): max width (m) x max length (m) x 1.6 = area in Sq m

Roman (full Oval): max width (m) x max length (m) x 1.55 = area in Sq m

NOT SURE.....call us for prompt help.

See our web site for more information:

www.diy pool paint.com.au

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IMPORTANT INFORMATION

MAINTAINING YOUR POOL WATER AND COATING FOR MAXIMUM LIFE

Introduction

Now that you have a “new” pool coated with EPOTEC a few simple techniques will keep it looking great for years.

EPOTEC is designed to provide a long lasting, functional and protective finish, while looking good.

As with all products, a longer life will be achieved when it is looked after correctly.

Curing

EPOTEC should be allowed to cure for 5 (Summer) – 7 (Winter) days before filling the pool. This is to allow a full cure to happen before subjecting it to chemicals. After the first 6 hours or so of application any rain that falls on the EPOTEC will have little impact and may be left in the pool unless it's dirty water, in which case it may stain the new surface and should be removed.

Cold overnight conditions (dew), high humidity, rain and/or frosts may cause a white blooming **on** the surface, within the first few days. Leaking pipes and valves may create the same effects.

This is aesthetic only and will not impact on the performance of the EPOTEC. It will look unsightly and can be removed, though it will usually wear off over 3-4 months or so, once pool is in service. To remove residues use a Scotch Brite Pad (or similar) and a mild abrasive like Ajax or Vim. It may slightly dull the surface. If hard to remove all residues and it's aesthetically not acceptable a reapplication of a coat of EPOTEC will be required.

Do Not enter pool until it's sufficiently cured, usually 16 – 24 hours after any application.

Before Filling

Any leaves, animals, insects should be removed as soon as possible so they don't stick or stain the curing EPOTEC. Remove by careful scraping, sanding or washing. Leaf stains usually disappear once pool is in service. Be careful when accessing pool as coating will be slippery.

Filling and Chemicals

Check that the Hydrostatic valve (if fitted) is working correctly. Fill with clean water. Allow to stand 24 - 96 hours max, then add chemicals (inc Salt) **making sure they are well diluted first. Then mix into the pool water completely.** Any chemicals that are added directly may sit on bottom and result in concentrated chemical attack or stains and reduced life expectancy to the EPOTEC.

Follow professional advice to get pool into the correct chemical balance.

Pool Water Maintenance

Whether you care for your pool yourself or use a pool service professional, you should settle for nothing less than the best, for your water (and your pool), at all times.

For maximum life of the coating, the pool water quality should be maintained continuously in accord with accepted pool water management practices and the following criteria;

- pH 7.4 -7.8, Water temperature between 5 – 35 Deg C
- Total Alkalinity 80-120 ppm (min) to 160 -180 ppm maximum
- Chlorine levels 2 – 3 ppm (parts per million)
- Calcium Hardness should be closely monitored and kept within 270 – 330 ppm
- Pool regularly cleaned in accord with generally accepted practice,
- Pool chemicals to be correctly mixed and not dumped into pool,
- Pool remains full of water

If having your pool professionally maintained then make sure they set the testing equipment to **painted** surfaces, not any other. Otherwise incorrect chemical dosage may result, shortening the life of the Epotec.

Also Total Alkalinity should be carefully maintained to prevent a powdery surface developing with attendant “pick up” on hands and feet and a shorter life.

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Surface Cleaning:

The EPOTEC is resistant to surface contamination and fungal growth. However over time the surface will tend to change with the attachment of slime and fat build up. This can be removed easily by giving the surface a “wash” with a broom or brush. The most affected areas will be at the water level, and within 300 mm of it. Body fats, suntan lotion and other matter that floats on the water surface will tend to stick to the sides of the pool. A regular scrub (bi monthly and more often in times of high usage) for this area should be a part of the maintenance program.

Calcium Build-up:

One of the by-products of pool chemicals is the formation of calcium deposits on walls and floors. Calcium comes from the hardness of water, Salt, or the “Chlorine 65%”, in previous section. This can usually be seen as a whitish “scum”. It may be noticed if you wipe the surface with your hand and you see a white “cloud” in the water. The EPOTEC will be glossy underneath. It should be removed as can act as an abrasive when pool cleaners in use and reduce the life of EPOTEC.

It can be removed by using a flocculating agent. See your pool shop for specific details.

Colour Change:

EPOTEC being a functional epoxy coating is modified by the UV radiation from the sun. It will tend to chalk and lose its colour somewhat. This will happen nearer the surface. Darker colours will change more so than lighter colours. The performance of the EPOTEC is not affected by this, however it will tend to lose some gloss and take on a slight yellow hue.

Little needs to be done to prevent this, though if you have a pool cover, use it to reduce the UV impact on the EPOTEC

Damaged Areas:

In the unlikely event your pool surfaces are damaged and the film integrity of the EPOTEC punctured, there is the prospect of water from the pool getting behind the EPOTEC. This will also allow the pool water with its corrosive salts, chlorine and other chemicals to come into intimate contact with the now unprotected concrete. Chemical attack of the concrete is possible with the result that it will fail, and there by undermine the further integrity of the EPOTEC. Any such damaged areas should be repaired promptly. We have touch up kits for this and they can be used underwater.

Summary:

To get the best performance from the EPOTEC, look after it well, cleaning it every now and then. Keep the pool water in tip top condition throughout the year.

Also note that chlorine, pool acid, and many other pool chemicals can do great damage to you and your pools health if not used correctly.

You may need to call on other professionals to assist you in obtaining the very best in pool water maintenance.

One web site you may like to visit for more information is SPASA and their Fact Sheets at: www.spasa.org.au

Contact the Applicator or us if you have any Q's.

See our web site for more information:

www.diy pool paint.com.au

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