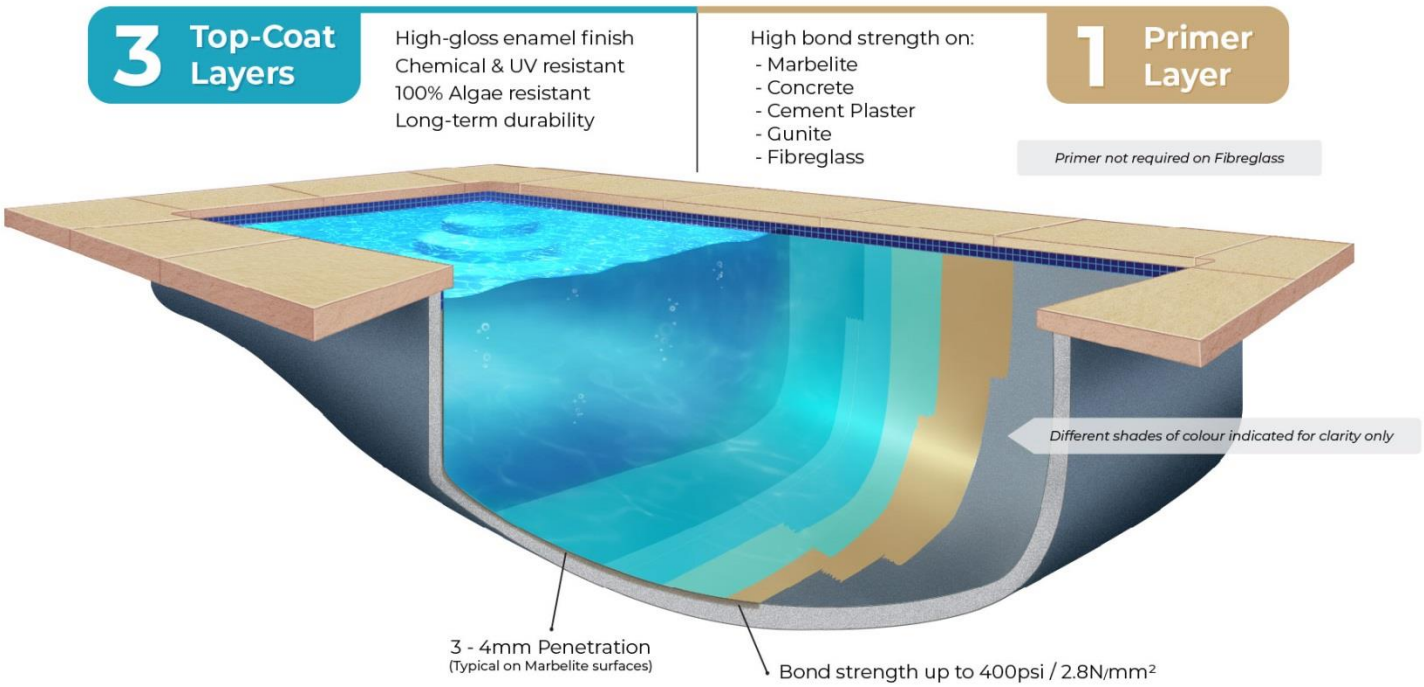
POOL SOLUTIONS
Epoxy Coatings

(Updated 03/10/2023)

# APPLICATION INSTRUCTIONS

## ProShield
Swimming pool epoxy paint
MARBELITE, FIBREGLASS, CEMENT, CONCRETE



## BACKGROUND

Pool Solutions manufactures **ProShield** swimming pool epoxy, a time-tested and proven epoxy system consisting of a penetrating epoxy primer (not required for fiberglass) followed by three layers of coloured top-coat epoxy. Epoxy coatings are easy to maintain and offer long-lasting protection against algae and staining when applied on marble plaster, fiberglass, cement-plaster or concrete surfaces. As with any paint layer, the epoxy paint is dependent on the integrity of the underlying plaster, lining and structure for stability.

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## IMPORTANT

Maintaining the correct PH, alkalinity and Total Hardness levels will ensure longer lifespan of the product.
**Please refer to pages 7, 9 and 10 of this document for more information** on after-care and our warranty**.**

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**Online help videos are available at:** http://www.poolsolutions.co.za/diy.html

### A Few Important Points to Prevent Mistakes

1. Do not dilute the supplied product with water, solvents or paint thinners. Added thinners will reduce the qualities of the product like hardening, chemical resistance and water-spot resistance and may compromise the mixing ratio that may result in total curing failure.
2. Mix product at **slow to medium mechanical speeds** not to warm-up the product and shorten the pot-life.
3. DO NOT leave paint buckets or paint trays on warm surfaces while painting that will dramatically shorten the pot-life. Preferably paint from 2L paint buckets with handles that can be kept in-hand.
4. All unmixed epoxy products should be kept cool and in the shade during summer. Under very hot conditions above 30°C, the epoxy A and B component containers can be kept in a larger container with cold water or ice to help prolong pot-life if necessary, although this is normally not necessary. Under very hot conditions paint early in the morning while the pool surface is still cool to prevent bubbling of the wet paint. On warm days keep an eye on the newly applied paint layers, if bubbles appear, roll flat while the epoxy is still wet. Mixed epoxy has a workable pot life. See the side labels on cans for specifications.
5. **During cold winter months below 18ºC**, keep all products supplied in a sunny spot to help warming up and lower the viscosity for easier mixing and faster cure times after application.
6. **All dried and hardened coatings must be sanded before over-coating**
7. Always stir ***Top-Coat PART-A*** separately BEFORE decanting into smaller quantities to mix with PART-B to ensure good curing properties, homogeneous colour and viscosity during the project. For two or more applicators, the contents of both containers can be added together without separate stirring.
   Keep in mind that you should not mix too much product at a time for the area that need to be covered.
8. **Masking tape if being used should be removed shortly after painting while the product is still wet.**
9. Make provision for a ***plastic drop sheet*** (available from hardware stores) on the outside near the steps of the pool. Use this area to always leave the pool, leaving ***gumboots and gloves*** behind on the sheet. This will help to prevent contamination of the paving and other surrounding areas. Keep ***methylated spirits, acetone*** or Paint Thinners and ***mutton cloth*** at hand to remove any epoxy contamination on the paving etc. **NB! Epoxy contamination must be removed while the epoxy is still wet.**
10. **Please note:** the epoxy is ***not*** intended as a structural sealer. The product sets into a hardened gloss, solid layer that is water repellent and thus have sealing properties by nature. However it is solely offered as a decorative coating for existing linings that can hold water as is. ***We do not guarantee*** that the structure will not leak water after being painted. See our FAQ web page or Warranty web page for more info. Structural movement or expansion may cause leaking, even after being painted.
11. Use ***White MOWHAIR*** or ***Epoxy pile rollers*** (Pool Solutions). Sheepskin rollers will not provide a good spread-rate. Rollers are disposed of after each layer, use a new set of roller refills for each layer. Use brushes in corners and along tile edges. Clean brushes with thinners or meths between layers for re-use.
12. Keep the Top-coat and Primer epoxy liquids separate during the project and arrange them in sets beforehand as follows:

    **Top-coat Part-A** - combine with - **Top-coat Part-B**
    **Primer Part-A** - combine with - **Primer Part-B**

13. **Do not cover the swimming pool with SOLID sheet** while the paint is still wet to allow for the evaporation of solvents. Rather use shadow-net covering if necessary on the first day after application.

**There are two possible ways of application that can be followed:**

1. **Long method (3-4 days)**

If you are working alone or have limited help available with a relatively large swimming pool, follow the safer route with our normal 3 to 4-day process. Sand all hardened layers by hand using 60grid sandpaper in-between layers. **Follow the longer method during colder temperatures (below 20ºC) to ensure a better smooth finish with less risk of teardrops running in the wet paint.**

2. **Quick method (1-2 days)**

(Visit www.poolsolutions.co.za/diy.html for more detail regarding the quicker method**)**

- Follow the same steps as indicated under the heading Detailed Instructions below to apply the Primer. (Please note that a Primer Epoxy layer is not required for Fiberglass pools)
- Wait approximately 60-90 minutes (2-3 hours during colder temperatures) after application of the Primer. While the epoxy primer layer is still damp, apply the first Top-coat layer using telescopic extension poles (on smaller pools). Walk around the pool to apply the epoxy paint without entering into the swimming pool if possible. Alternatively, you can perform this task by entering the pool on ***spiked paint shoes*** *(available from Pool Solutions)* ***or gumboots with smooth soles*** *(grind soles smooth if necessary)*.
- After application of the first top-coat layer, While the epoxy layer is still damp (2-3 hours), apply a second Top-coat layer using telescopic extension poles (on smaller pools). Walk around the pool to apply the epoxy paint without entering into the swimming pool if possible. (Certain Topcoat-B curing agents that may have been supplied might come with a warning sticker on the container for faster curing times, in this case allow only one hour before over-coating with next layer). You can test the coating after one, two or three hours by touching with the fingers to determine if the coating is still damp/wet but offers a little stickiness, it is then ready to be over-coated.
- After application of the second top-coat layer while the epoxy is still damp/tacky (normally 2-3 hours), apply the last top-coat layer (alternatively, let dry overnight to complete emulsification, sand by hand with 60 grit sandpaper and apply a final topcoat the next day).

**Please Note:** Sometimes, experienced applicators can apply thicker layers evenly and might be able to use all Topcoat product supplied in only two topcoat applications. As long as most of the Topcoat product supplied for your size swimming pool has been utilised, the dried coating thickness will be within specifications to ensure a long lifespan (0.5mm-0.7mm). Applied top-coat layers may even be left for a week or two before over-coating. **Thorough sanding is required on any hardened layer before over-coating.**

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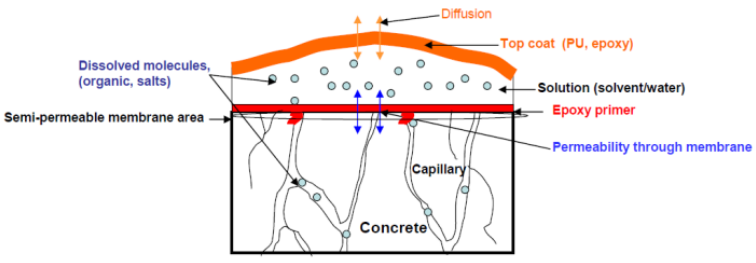
# DETAILED INSTRUCTIONS

## INSPECTION OF THE POOL SURFACE

**All surfaces must be strong, hard and solid to support the paint layer.** Tap and rub over plastered pool surfaces to ensure that there are no brittleness or pieces breaking loose. Such areas should be removed and re-filled with white cement and bonding liquid before applying the epoxy paint. On fiberglass linings, any cracks or large bubbles in risk of cracking should be repaired using a proper fibreglass repair kit.

### Inspect Cementitious Pool Structures and Environment for Osmotic Pressure from Outside

**On a small percentage** of cementitious or marbelite pools (lower than 5%), slow-penetrating osmotic water originating from in-ground water bodies in the vicinity or high water tables due to extensive rainy seasons or nearby water bodies may result in small bubbles forming in the coating at a later stage, especially in clay-type areas. In 99% of cases, these small bubbles (3-10mm in diameter) will not break during the lifespan of the coating but may be visible by closer inspection.




Slow osmotic pressure is not always visible on the surface during preparation due to fast evaporation of moist from the surface. Water features in the vicinity like rivers, dams, mountain sides etc. can be an indicator of possible external water pressure problems.

An easy test for existing moisture in the substrate is to place a clear plastic sheet (1m x 1m) on the floor of the

pool in a sunny pot and tape the edges with masking tape. If no moist or dampness has formed underneath the plastic after a sunny day or two, it is an indication that the surface may be dry enough for the paint process.

You can also test for deeper, hidden dampness problems **in the structure behind the marbelite/plaster layer** if you suspect high water tables in the vicinity. Grind a cross-hatched pattern (1-2cm deep) through the marbelite layer or plaster to expose the concrete layer (+/- 5cm x 5cm area). Chip the area out to create an inspection hole. This can be done preferably on the vertical sides and at the bottom of the deep end. We recommend watching **our online help videos available at** www.poolsolutions.co.za/diy.html.

### Applying PCT66 and/or Wet-Smart Primer as a water-repellent membrane

If you suspect high water tables in your area, please enquire from us about ***PCT66 water repellent*** sealer as a pre-treatment for cementitious substrates before applying the epoxy Primer (not applicable to fiberglass linings). The spread-rate for PCT66 is +/- 7 to 8m²/L. PCT66 (available from Pool Solutions) can be sprayed onto the raw surface with a normal household sprayer bottle or by using a pesticide garden sprayer pump or rollers. Sand the surface slightly after 2-3 hours or the next day with P60 sandpaper before applying the first Primer epoxy layer. For existing visibly damp plaster and substrates, use our ***Wet-Smart Epoxy Primer*** for damp surfaces which cures in the presence of moist. Wet-Smart primer is a product that can be used on damp "green" concrete/cement.

**Visible water flow and water sprouts** can be drilled open or grinded open to allow water to freely flow into the swimming pool until the spot becomes completely dry. This can take hours of even a few days. Excessive water-inflow problems can in most cases be stopped using **Hydro-Stop,** available from Pool Solutions or www.hydrosealant.co.za, PCT66 and our Wet-Smart Primer can be used in conjunction with these products.

### Sealing of Mosaic Tiles and Grout Lines

PCT66 can be sprayed on mosaic-tiled areas to help seal porous grout lines. Tiles can be wiped clean with a damp cloth after two hours.

### Newly-plastered surfaces

**On new swimming pools constructed with concrete and cement plaster**, it is by default recommended to use a bonding liquid and sealer in the concrete and plaster mix like Sika WT200 or Plaster key etc. Even if no sealer was used in the concrete mix, the use of PCT66 Water repellent and our water-reactive ***Wet-Smart Primer*** will reduce the risk of delamination or blistering due possible moist levels in green concrete.

### Previously Painted surfaces

Pool Solutions' epoxy coatings can be over-coated again by sanding the previously applied layers thoroughly using p60 sandpaper. If the substrate surface is not exposed, only two topcoat layers need to be applied. Apply primer in areas where the cement plaster is exposed. Paint layers of unknown origin that seems to be chalking, flaking and/or seems not to offer a high bond strength to the substrate should be removed as much as possible by grinding using Semiflex Paint Removal discs (available from Pool Solutions).

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### WARNINGS and DISCLAIMER

Although negative health issues have never been reported with our products, it is recommended to use rubber gloves, gumboots, face masks and safety glasses when working with chemicals. Many products including epoxy paints may be harmful to the skin, eyes and lungs, especially in non-ventilated areas. The epoxy products may contain solvents and chemical vapours like benzene alcohol. Avoid inhaling vapours. Immediately wash of all contamination on the skin. Wash skin with warm water and soap. Protect your eyes at all times while mixing or applying. Do not eat, drink or use the toilet during application of the products. Remove contaminated clothing and thoroughly wash and shower before eating. Contamination of eyes should be treated by thorough washing with clean water or milk for 15 minutes. Consult a doctor immediately. Paint products may be flammable when exposed to open flame, avoid open fire and smoking while applying or near storage areas. **Material Safety Datasheets (MSDS) can be downloaded here:** https://www.poolsolutions.co.za/downloads.html

**The product can be slippery when newly applied or when cured, especially with water on it. Be careful!**
**Anti-slip glass beads can be broadcasted on the wet coating in areas like the steps to help prevent accidents.**

**Disclaimer:** Pool Solutions, the owners or any of their dealers or affiliates, will not be held responsible in any way for any accidents, injuries, health-related problems or any damage claims arising from the storage or use of the supplied products.

## PREPARATION OF THE POOL SURFACE

**We DO NOT recommend ACID-WASHING.** Acid-washing may work to etch the pool surface, but acid left in the surface may soften and pit the plaster or migrate into the coating while curing and cause discolouring.
If an acid-wash was performed, the surface should be neutralized by wetting the surface with bicarbonate of soda and water mix and leave to soak for 30 minutes. Rinse the neutralizer out with water, applying sufficient thumb-pressure to deep-clean the surface.

1. Empty the pool. Electrical or petrol pumps can be rented from most tool hire companies like Talisman, Tool hire and Hire Quip etc. Ask for a long outlet pipe in order to drain the water into the street and storm water drains, preferably not into the municipal drains.
2. To clean mosaic tiles, apply ***iKleen7*** (undiluted) with a squirt nozzle or sponge, leave for 10 minutes to soak. Scrub the tiles with rough scrubbing sponges and water. (***iKleen7*** is available from Pool Solutions and is non-toxic and safe on the skin). Visit www.poolsolutions.co.za/ikleen7.html for photos and more information on this product. Some clients reported that calcium deposits can be removed effectively soaking and scrubbing with vinegar.
3. Grind-cleaning of tiles can also be done to remove heavy deposited calcium layers. Use P80, 180mm fibre grinding discs or a "Flap wheel sander 60 x 40mm paint remover disc", (115mm 80 grit Flap discs may also be used). These discs are mounted on an angle grinder or electric drill to remove dirt from heavily stained tiles. (Available from hardware stores). It is advisable to first test these grinding wheels on a small portion of the tiles as newer type mosaics can easily be damaged.

**NB! It is essential that the tiles be scrubbed with water to remove all cleaning chemicals from the tiles. Acid or chemicals may contaminate the epoxy and cause yellow staining of the newly applied epoxy layer.**

4. **Prepare fiberglass linings** thoroughly by scourging using a large grinder equipped with a rubber backing disc and P36 or P60 flexible grinding discs. Sand corners and curved areas well by hand using P60 grit sand paper. (No Primer epoxy is required on fiberglass linings, only Top-coat epoxy.)
5. Tap marbelite/cement pool surfaces to check for plaster that is breaking loose. Hollow sounds are acceptable if the marble plaster is thick, strong and does not show movement or cracking.
6. Chip out loose plaster, fill and repair. For small repairs, use White Cement and bonding liquid (from Pool Solutions or other hardware outlets). Mix the cement powder with a Bonding Liquid (3 parts white cement with 1 part bonding liquid should normally be suitable) to obtain a workable paste. Fill the holes or cracks using a putty knife. When dry, sand or grind down to a smooth and level finish. The patching cement will be dry within a few hours or can even be dried quicker using a heat gun or hair dryer.
7. Scourge the whole pool with ***P16 flexible fibre discs*** (P36 –P60 for fiberglass) mounted on a 230mm angle grinders fitted with ***M14 flexible rubber backing disc*** until green algae, loose or brittle plaster and dirt are removed. (***P16 /P36 flexible fibre discs*** and ***M14 Rubber Backing discs*** are available from Pool Solutions) Black-algae and dried algae that has penetrated deep into the surface and has fossilized over time does not need to be removed or grinded out completely, it can be painted over if these spots are hard and solid. The main idea of the grinding process is to remove loose green algae and chemicals etc.
8. **Alternatively** if the pool offers a very solid and hard surface, a high-pressure washer with at least 200KPa pressure capability can be used to clean the pool surface instead of grinding. The high-pressure washer equipped with a rotating-pencil-nozzle works best. High-pressure-wash the pool at least twice at 4-6cm distance from the surface. The pool must be completely dry before applying the normal Primer. If the marble plaster cannot withstand this pressure or form uneven hollow spots, rather grind the pool surface as described above.
9. After grinding, remove the dust, broom and scoop the surface and wipe clean with a damp cloth.
10. Remove all water from the weir. Open the filter basket at the pump side to allow water in the pipes to be blown back into the filter system. Blow hard into the outlet-nozzles to push water from the pipes.

***TIP: To prevent dripping from the inlet jets of the pool, create "plugs" using cloth bundled into a small plastic bag. Smear the plastic bag with silicon sealant on the outside and push tightly into the pipes after removing the jet nozzles. Alternatively use balloons stretched over the nozzle heads to catch dripping water. Keep an eye on balloons that may be filling up.***

***Do not paint on the mosaic tiles unless the tiles need to be covered completely. In this case abrade by grinding through the glazed surface.***

## PRIMER APPLICATION
## (Not required for Fiberglass linings)

Keep the products marked **Topcoat** apart and away from the products marked **Primer** to prevent accidental intermixing the wrong components.

The ***Primer*** is supplied in two components namely ***Primer-A*** and ***Primer-B***. The two parts should be mixed with a correct ratio as indicated on the bucket label per volume (not weight).
Refer to the labels on the containers to identify the correct components marked as **Primer A** and **Primer B.** **Confirm the correct mix ratio on the bucket labels**. Products are supplied in pre-measured quantities and can be added together if more than one applicator is available to utilise the mixed quantity within the pot-life period .

**Mix in manageable quantities typically 2 litres per worker as the product has a pot life of 45-60 minutes. Pot life may drastically reduce under warmer conditions.**

**TIP:** Cut 1L plastic bottles in half or ¾ to serve as measuring cups to measure the correct parts Primer A and Primer B of epoxy liquids. Do not try to mix minute small quantities of the product, as this might be inaccurate and may result in failure to properly set or develop good properties. Smaller quantities can be more accurately measured using 60ml syringes if required for small touch-ups. For more than one applicator, the Primer Part-A and Primer Part-B components can be added together and mixed for application.

1. In case smaller than packaged quantities need to be mixed, stir the **Primer Part-A** first at slow/medium speed for +/- 30 seconds.
2. Measure and decant the quantities of each component as per mixing ratio and add the two components together. Mix well for +/- 1 minute at **medium drill speed. Do not agitate at high speed** as heating may result in foaming and/or reduced pot life. Use an electric drill fitted with a ***paint mixing tip*** (available from Pool Solutions or hardware stores) to do all the mixing. For small quantities, use a flat paddle rather than a round stick to mix. Clean the mixing tip with paint thinners or methylated spirits between mixes to prevent cross-contamination.
3. Use White ***Mohair*** or ***Epoxy-Pile*** type rollers to apply the epoxy mix (150mm width works well). Apply a saturating primer layer. The expected coverage is between 12m$^2$ -15 m$^2$ per litre depending on the porous nature of the surface. (Typical spread rate on old marbelite). **New cement and concrete will absorb more primer and provision should be made for 7-8m2/L** spread**.**
4. Start at the deep end, paint the walls and floor, working your way from the deep end to the shallow end. Paint the steps last. **On very large pools** you may apply the primer and first topcoat in sections and on different days. Sand pervious hardened areas before moving on to paint other sections to allow bonding in overlapping areas and to prepare the dried surface for the next layer.
5. Use enough mixed primer to saturate the surface. Patches with different shades of yellow/brown will be visible after application, this is normal.
6. **Every 10 minutes after the primer coat was applied, check for any dry absorption-spots forming and recoat these spots if necessary.**
7. Test every 15 minutes in sunny spots and where you started by touching with the fingers. As soon as the primer starts to feel slightly sticky but still wet in certain spots, it is a sign that you should start with the application of the top-coat **(normally after 30-60 minutes on warm days, 2 -3 hours on colder days**). On large pools and on very hot days, the first topcoat can be applied immediately after finishing the primer application, starting from the deep end again. (See next section)
8. Epoxies will drastically **increase** pot life and layer drying time under **lower temperature** conditions and **decreased** pot-life under **warmer conditions**.
9. The top edges (top 500mm) of the pool and the steps should be coated and sealed with extra care and saturated properly with primer to help protect against garden moist and water penetrating into the walls of the pool from outside.

*Apply the first Top-coat after +/- 60-90 minutes (2-3 hours in winter) while the primer is still damp and slightly sticky in some areas. Do not allow the primer to totally dry in some areas, rather apply on too wet primer than too sticky or dry. If the primer coat was left to become touch-dry, leave the coating to completely harden and proceed the next day by sanding the hardened primer layer and apply the top-coat on a well-sanded primer layer.* **Any epoxy layers left to completely harden during the process *must* be sanded before applying the next coat.** Failure to do this may result in inner-layer de-lamination at a later stage.

10. Use gumboots, old shoes or plastic bags over bare feet to walk on the wet, sticky primer coat. Alternatively use ***Spike Paint Shoes*** (available from Pool Solutions) to walk on the wet Primer epoxy. Spike shoes will ease and speed up the application process (do not use spike shoes on fiberglass linings).

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## TOP-COAT APPLICATION

Storage during cold winter temperatures or low night-time temperatures may result in Topcoat Part-A that may appear very thick or solidified and not easy to work with due to resin crystallization. The problem can be resolved by placing the Topcoat Part-A containers in a larger container filled with warm water for 30 minutes. Alternatively leave the product in direct sun during warmer days to reduce the viscosity again to normal liquid viscosity. During very warm temperatures the usable pot life of mixed product will be shortened. Product should be kept in the shadow and can be further cooled down by placing the containers in a larger bucket with ice water during temperatures above 30 ºC). Do not apply over mid-day on very warm days to prevent bubbles popping up in the still wet top-coat. Rather apply early morning or late afternoon during very warm days above 30 ºC.

Mix the Topcoat components marked ***Top-coat PART A*** and ***Top-coat PART B***
**Refer to the label on the container to confirm the exact mix ratio for the Topcoat supplied**

For two persons applying the paint you may add the Part-B bucket contents directly into the Part-A content and stir properly with an electric drill and paint mixing tool at ***medium speed*** for 3 minutes.
**Do not apply or try to dilute the epoxy after it has started to gel in the bucket/tray. Rather mix smaller quantities if you are unsure about the pot life and your application speed.**

1. **Important: when measuring out smaller quantities, always stir the *Top-coat PART A* separately** for +/-2 min in its supplied container ***before*** measuring out to combine with the Part B to ensure a homogenous mix throughout the project. Part-A contains pigments and solvents that may sag or separate after a while. Not stirring the Topcoat A separately may result in spots not curing, uneven colour patches or a coating that is compromised regarding its bond-strength and chemical resistance etc.
2. Start at the deep end and work your way from the deep-end to the shallow-end. Work fast on warm days as the Epoxy will become sticky or hard quickly during very hot conditions and when applied on heated surfaces.
3. The **first Top-coat** applied on wet Primer **should not be a thick covering coat** but apply mildly to prevent teardrop running. The result might look patchy, this is normal. **Do not try to apply a very thick or solid solid-looking first layer or you may run short of product for the final layer.**
4. On warm days, sweat from the workers dripping into the topcoat might cause yellow stains, let them use headbands to help prevent this, especially when applying the final top coat.
5. Walk around the pool looking directly downwards at the surfaces below. Re-apply on spots that are fading or where spots were accidentally skipped.
6. For the normal, longer method, leave the first Top-coat layers to dry overnight. This way it will also be easier to walk with bare feet in the pool the next day without damaging the first layers while applying the second or third Top-coat. During colder conditions an extra 24-48 hours of drying might be necessary in-between Top-coat layer applications for complete drying.
7. Topcoat (or Primer) that was left to dry overnight will form a hard, glossy layer. The hardened layer **must be sanded by hand** using P60 grit sand paper the following day to break the gloss a bit. A gentle rub with 60 grit sandpaper everywhere will be sufficient. Epoxy left to dry for a few days will become very hard and glossy and will require more effort with the sanding process. Ensure that the complete surface was sanded without skipping spots.
8. Do not apply too thin on second a third Topcoat layers. An ideal spread rate would be 12-13$m^2$ / ℓ.
9. If excess top coat product is still left over, recoat the steps and the bottom of the pool as soon as the initially applied top- coat becomes slightly sticky (well in time before touch-dry).
10. Enter the pool after one day with socks on hands and feet and feel the surface through for any sharp points etc. Use a knife to cut any sharp edges or sand down with fine sandpaper. If necessary, a small quantity topcoat can be mixed in correct ratio for touch-ups. Use 60mL syringes to measure the quantities).
11. Ensure **separate stirring of the Part-A components** ***EVERY TIME*** before mixing with Part-B when measuring out smaller quantities, accurate measuring and combining the correct A and B components i.e. ***Topcoat A & B*** components ***will always*** result in the product setting into a hard and glossy layer within 24 hours (temperature dependant may extend to 48-36 0hours in winter).

**Allow 3 days for complete hardening before adding water, during winter times - allow 7 days.**

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## CLEAR-COAT SOLUTION FOR SUBMERGED MOSAIC PATTERNS

A clear coat can be created for application over patterns or art that will be under water. Do not use Primer epoxy due to its tendency to yellow over time if not over-coated with Top-coat. Use a cross-mix as follows that will provide better results.

Mix **Primer-A** with **Top-coat-B** in a **1.5 : 1 ratio** (e.g. 1.5L **Primer**-A with 1L **Top-coat**-B). Glossy surfaces must be sanded to overcoat with a clear coat.
Clear-coats that are not submerged and left in direct sunlight will not last as long as submerged coatings. This is an experimental application.

## CREATING A NON-SLIP COATING FOR SWIMMING POOL STEPS

1. Glass beads (400 – 800 micron) can be used to create a non-slip area. The glass beads are supplied in 200g quantities which is enough to create a non-slip area of +/- 10-20m ². (Available from Pool Solutions)
2. Drill 2mm size holes (+/-10-12 holes) in the cover of the small plastic bottle in which the glass beads are supplied. Use the bottle as a dispenser to evenly spread the glass beads onto a wet epoxy top coat layer. Hold the bottle upside down approximately 10cm above the surface and shake the bottle slightly up and down to release the beads while moving the bottle across the area to be covered. A 3-5mm spacing between particles should be sufficient.
3. After application of the final epoxy layer, immediately sprinkle the glass beads on the steps and areas where a non-slip finish is required. Apply a thicker layer of epoxy on areas to be sprinkled with the glass beads.

## SUPPORT WHEN THINGS GO WRONG

Should you experience any problems with the epoxy application, feel free to contact us and we will be willing to assess the problem and help you to resolve it the most cost-effective way. Mishaps can happen and we are not inclined on making profits due to a client's' misfortune. Be honest with us and we will offer replacement stock at a much lower material input-cost-level to you.

## IF THE PRODUCT DOESN'T CURE

Epoxy curing is a well-tested science and well-proven over the span of many years and thousands of installations with mix ratios that are not minutely critical. If curing did not complete within 72 hours, the mixing process or product composition was compromised, ***it is not a product quality related problem!***
In case of a mixing mishap, use Acetone to remove any uncured, compromised layers using scrapers etc. Sand the surface and re-apply new product according to instructions. Mishaps can happen to anyone. Contact us so we can assist at factory cost price to replace products that didn't cure, was lost or damaged after application.

## IMPORTANT AFTER-CARE and WARRANTY INFORMATION

If treated correctly, this product will provide you with a clean and easy-to-maintain pool for many years.
**To protect your investment and for warranty purposes (also see page 10) please note the following:**

1 **Always have new pool water tested for pH, alkalinity and especially for Calcium Hardness (or Total Hardness) at a swimming pool water test facility. Excessive chalking might occur due to low Calcium Hardness, Low alkalinity and low pH - Keep Calcium Hardness between 400-550 ppm. Calcium flakes (Calcium Chloride) is available from swimming pool outlets or from Pool Solutions.** U may use water test strips available from Pool Solutions (InstaTest 6 Plus or Aquacheck 6/7) to test for these conditions on a regular basis.

2 The first 6-8 hours after application is critical due to the vulnerability of the product during the initial curing stage. During warm summer days, the product will become rain-resistant within 3-4 hours (depending on environmental influences).

3 Don't do garden work around the pool that could cause dust, grass, leaves etc. to contaminate the epoxy coat while still wet, especially during the first 4 hours. Avoid the use of sprinklers near the pool during the first 3 days. Keep pets, garden workers and children away from the pool during this time.

4 A shadow net may be used to cover the pool during application and the first few hours after application, but is normally not necessary due to the relatively quick set time of the product. Do not use a "non-breathable" type cover. If shadow netting is used, make sure that it is securely bound and tightened around the pool. Solid coverings should be lifted above ground level to allow ventilation underneath.

5 **Water may be added after 3 days of hardening during summer days. Extend to 7 days during colder conditions.**

6 Don't step into the pool during the first day of hardening time while the product is still soft. Water, dust and leaves should be left till the next day after the initial hardening time. After 24 hours of hardening time (48 hours in winter), the pool may be entered on bare feet if necessary to remove puddles of rain water, leaves or dust etc.

7 Fill the pool in one continuous inflow till full. Let the water fall away from the side directly into the deepest end. Don't let the water flow down the wall as the continued stream of water and friction might still cause a slight discolouring at his stage. The water should not be left to stand partly full for days to avoid ring discolouring.

8 Start balancing the water by correcting the alkalinity first**. Correct to a value of 100-150, low alkalinity will incorrectly influence the pH and chlorine readings. Low alkalinity may cause yellowish/brown discolouring of pool surfaces. Add *HTH Alkalinity-up* in limited quantities. After alkalinity is corrected, then add acid to adjust the pH level to 7.2.**

9 Add normal Pool Acid to lower the pH level to the recommended level if necessary.

10 Add chlorine as usual to maintain the correct chlorine level. **HTH** dry chlorine, HTH month-packs, Bio Guard or PoolBrite drifter packs or **Blu52** may be used. **String drifters 1m from the wall to the automatic pool cleaner pipe to prevent yellow streaks against the walls.** Drifters tend to "park" for long periods of time against the wall and then release shock treating chlorine that can temporarily stain the wall.

11 Although this epoxy has excellent resistance against chemicals and should not be permanently stained even by undiluted acid and chlorine, it is still advisable to evenly spread the chemicals by adding through the weir basket while the pump is running for best results. Adhere to manufacturers recommendations for chemicals..

12 You may start using the pool cleaner again right away after completely filling the swimming pool.

13 Should it happen that rusting objects or other forms of discolouring has occurred at a certain spot, use a kitchen sponge soaked with Clean Green or Mr Muscle to scrub the spot, even under water.

14 **Please note. If you have a salt chlorinator**, distribute salty evenly and within prescribed requirements while the filter pump is running for a couple of hours. Minimize the salt dosage to prolong the epoxy layer's lifespan. Less algae growth due to the epoxy layer requires less chemicals to control algae and maintain a clear water appearance.

15 **Waterwell Dry Chlorine** and **Aqua Cure alkalinity raiser** have been reported by users to cause yellow staining. Feel free to use ***4in1 HTH drifter packs, HTH Clear 4 Weeks*** or ***HTH dry chlorine***, normal ***pool acid*** and ***HTH Alkalinity-up*** or ***Blu52.*** These have all been well-tested with the product. For ***Blu52*** please note that the manufacturer's pamphlet indicates that a metal-removal treatment should be performed every 6-12 months due to the copper-sulphate.

16 Due to possible deficiencies relating to brittle plaster, structural expansion and or movement that may cause leaking outside the performance specifications or coverage of the epoxy paint, no guarantee is offered against leaking. Excessive water pressure migrating through a porous structure that may cause bubbles in the coating, cracks or other structural related problems are not covered by our product replacement warranty.

17 Pool Solutions will not be held responsible for water-loss or replacement of water after application of the product, for repairs under our product replacement warranty or under any other circumstances.

18 Please note the last two pages for the requirements to qualify for a three year product replacement warranty against de-lamination.

**Contact numbers:**
**Celéne**: 083 227 6663, **Gerhard**: 072 603 8895, **Office**: 074 740 0010

**After-hours support:** call us on **083 227 6663 or 072 603 8895**. If no answer, send a SMS or Whatsapp message to 083 227 6663 indicating your name and short description of your enquiry. We will be in contact.

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**Typical Materials and Tools needed for two workers**

| ITEM | QTY |
|---|---|
| Roller Handles | 2 |
| Rollers Epoxy Pile or White Mohair 150mm (Pool Solutions) | 8 |
| Paint Brushes 38mm (Pool Solutions) | 4 |
| Sanding Paper P60 (1m roll) (Pool Solutions) | 2 |
| Plastic Bags Black (Roll) | 1 |
| Mutton Cloth (Roll) | 1 |
| Mentholated Spirits 5L or Paint Thinners | 1 |
| Ikleen7 Tile Cleaner 1L (Pool Solutions) | 1 |
| Masking Tape (roll) optional | 1 |
| Welding Gloves for Grinder Protection optional | 2 |
| Rubber Gloves Chemical Resist. Only if Chemicals like Mosaic Wonder or other acids are going to be used. | 2 |
| Plastic Drop Sheet | 1 |
| Safety glasses for grinding work | 2 |
| **Material type masks can be used for outdoor applications.** Use full face masks and capsules for dust and chemicals for unventilated areas. | 2 |
| White Cement and bonding liquid – to repair marbelite and cracks (Pool Solutions) | 1 |
| Buckets for mixing 5 Litre | 2 |
| Measuring mug (or cut 1L plastic bottles to measure 500-750ml) | 4 |
| Putty knife | 1 |
| Broom, brush and scoop set | 1 |
| Electric drill for mixing | 1 |
| Paint Mixing tip for electric drill | 1 |
| Angle Grinder for 180mm discs | 2 |
| P16 grinding discs 1 per 10sqm (Pool Solutions) | 1 per 10sqm |
| M14 Flexi pad rubber backing disc for grinders (Pool Solutions) | 2 |
| Spiked Paint Shoes 25mm spikes, optional – (Pool Solutions) | 2 Pairs |
| Paint bucket (2L) with handles for painting with150mm rollers | 2 |
| Roller extension poles (optional) | 2 |

## QUALITY and WARRANTY CHECKLIST

Name of client (as per invoice): _____ Invoice # _____

Installation Address: _____ Contact # _____

Email address: _____

**Indicate Method of application**: *Longer (4-5 days)* ☐ or *Quick Method (1-2 days)* ☐

**Indicate type of surface:** Marbelite/cement/Gunnite/concrete: ☐ or Fiberglass: ☐

Check items with (√ , Yes or No), monitor date and time, take photos where marked as required for reference purposes. **For the long method, ignore points 11 and 15, but take photos between layers.**

| STEP | TASK/DESCRIPTION | CHECKED (√)(yes)(no) | DATE | TIME | PHOTO |
|---|---|---|---|---|---|
| 1 | Pool emptied and left to dry completely | | | | **1** |
| 2 | Check for cracks, loose marbelite/cement, problems fixed | | | | |
| 3 | Was chemicals used to clean tiles or pool beforehand? **(Yes, No)** | | | | |
| 4 | Surface scrubbed with soap and water after chemical cleaning? **Neutralizer-wash after acid was used?** Indicate process and chemicals used in comments below. | | | | |
| 5a | **Marbelite/cementitious**: Grind the entire pool with P16-P36 Grinding discs | | | | |
| 5b | **Fiberglass**: sand thoroughly with P36-P60 grinding discs or orbital sander with 60-80 grit. Hand-sand corners and hollow spots with P60 sandpaper **JUMP TO POINT 11 (on fiberglass)** | | | | |
| 6 | After grinding/sanding, wipe/broom the pool to ensure it is dust-free. Pool must be completely dry. | | | | **2** |
| 7 | Optional: apply **PCT66 for damp prevention** (if applicable) by spraying or rolling and allow at least 2 hours for drying, **then sand with 60grit sandpaper?** | | | | |
| 8 | **Primer Application** Measure correct quantities of **Primer A** and **Primer B** and mix in practical quantities in correct ratio as per label (Mix for 2 minutes at medium speed), Do not use a stick, us a paint mixing tip and an electric drill for all mixing. | | | | |
| 9 | Apply thoroughly with White Mohair or Epoxy Pile rollers, saturate surface. Check regularly for dry spots and touch up. Use brushes in tight spots or along tile lines. | | | | **3** |
| 10 | Check paint layer by touching. As soon as the layer starts to feel slightly sticky in some areas but still wet, **apply first top-coat on sticky/wet primer on the same day. Normally within 30-60 minutes. (+/-120min during cold weather)** | | | | |
| 11 | **1st Top-coat application** Stir **Top-coat (A)** separately first if measured out in smaller quantities. **Add Top-coat (B) to Topcoat (A). Mix for 3 min** at low to medium speed using a mixing tip and elect drill. (see label on bucket for mix ratio). Use rollers and brush. Apply mildly, need not be a solid covering coat | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **12** **Ignore this step for long method** | When 1st Top-coat starts to feel slightly sticky/wet, **apply 2nd top-coat (see 10 above) For quick same day over-coating method - JUMP TO POINT 16 (for same day method)** | | | | **4** |
| 13 | **1st Top-coat is left to completely dry overnight** – sand thoroughly using P60 sand paper. Don't miss any spots. | | | | |
| 14 | **Apply 2nd Top-Coat as per Point 10 description.** Apply a thicker covering coat this time around for a solid colour finish. | | | | **5** |
| 15 | **2nd Top-coat is left to completely dry overnight** – sand thoroughly using P60 sand paper. Don't miss any spots. | | | | |
| **16** **Ignore this step for longer method** | After 2nd Top-coat starts to feel slightly sticky but still wet, **apply 3rd top-coat** same way as per point 10 above , Keep an eye on coating for 2 hours to see if teardrops are forming, re-roll while wet to remove any teardrops. | | | | |
| 17 | **Apply 3rd Top-coat** with rollers (see point 10), Keep an eye on paint for 2 hours to see if teardrops are forming, re-roll while wet to remove any teardrops. | | | | **6** |
| 18 | After one days of drying (3 days in winter), enter bare feet and check for sharp points and missed spots and other deformities, cut sharp points or remove with fine grade water sand paper, touch up if necessary. | | | | |
| 19 | **NB Leave for 3 days in summer to dry, 7 days during cold winter before adding water.** Take photo with date/time stamp or newspaper with date visible showing the start of water-filling. Fill pool in one continuous flow away from walls in deep end. | | | | **7** |
| 20 | PLEASE INDICATE "Yes" or "No" if photos may be used for info or promotional purposes | | | | |

**Notes: (Please give us your feedback and comments)**

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## Register for our product replacement warranty:

1. **Complete this checklist during application (not afterwards) and forward to us within 7 days from date of application and within 90 days of purchase.**
   (Contact us for an extension on this time if required)

2. **Have the swimming pool water tested for pH, Alkalinity and Total Hardness (TH) aka Calcium Hardness (CA) within 30 days after filling and rectifying chemical levels, send to us for our records.**

   Where a water test facility (most pool shops) are not available, use water test strips (Bioguard 5-way or Aquachek 6 or 7, available from Pool Solutions), test water and forward pictures of the test strip held next to the colour chart table on the bottle. Adjust Total Hardness (TH) to upper-end of ideal range on these test strips. Calcium Hardness (or TH) must be adjusted to read between **400ppm and 550ppm** regardless of recommendations by pool shop testing facilities. Also keep Alkalinity and pH within recommended ranges. These measures will prolong the lifespan of the coating and reduce chalking of the paint over a long period of time.

**Please note:** Our **product replacement warranty** for DIY clients is issued to the **buyer** of the product as per invoice. This means if the buyer install the product for a third party, the buyer is responsible towards his customer for product & workmanship warranties and only the buyer can claim product replacement against the product replacement warranty if the above information was submitted, accepted and confirmed to be satisfactory. Please see our full warranty information here: http://www.poolsolutions.co.za/guarantee.html
**Checklist and photos may be submitted by registering at:**
www.poolsolutions.co.za/warranty.html **Or email to** reply@poolsolutions.co.za