



Application Instructions

FOR CONCRETE / PAINTED POOLS and SPAS

Make sure you have the correct Application Notes for your pool surface.

| Pool Type | Surface | Application Notes To Use |
|------------|-----------------------------|----------------------------------|
| Concrete | Concrete / Paint | For Painted Pools |
| Concrete | Marblesheen | For Marblesheen Pools |
| Concrete | Pebblecrete + Quartzon Type | For Pebblecrete + Quartzon Pools |
| Fibreglass | Fibreglass | Fibreglass Pools |
| Concrete | Fibreglass Lined | Fibreglass Lined Pools |

We have laid out these Application Instructions in several easy-to-follow Chapters. Make sure you have the correct Chapters for your type of pool and the work to be undertaken.

1.0 Introduction Outline of process, weather items and materials needed, ground water, emptying of pool

2.0 Preparation How to prepare surface inc localised repairs

3.0 Application Mixing and Application

4.0 Curing How to ensure complete curing

5.0 Management Looking after pool when completed (for pool owner)

1. Introduction + Items Needed

1.1. Overall Process

1. Empty pool.
2. Wash surface with detergent, rinse thoroughly
3. Survey surface and mark any defects/drummy/rust/spalling etc
4. Remove any defective areas.
5. Repair areas that have been seen as defective inc worn surfaces
6. Apply an Acid and / or Algaecide wash (if necessary)
7. Allow pool to dry.
8. Apply skim coat (if necessary and allow to cure).
9. Apply Primer E2100
10. Apply Topcoats (2-3 coats) of PaintNForget V790
11. Allow to cure correctly, 7 days summer and 14 days winter,
12. Refill, balance and use.

1.2. More Information

When the surface is prepared correctly, the application is carried out in accordance with these instructions and allowed to cure in required conditions. We expect it to perform beyond any other known coatings available.

Please visit the website: poolpaint.com.au. for more details including the **INFOBANK** for added help and application ideas.

Refer to website **INFOSHEETS** for lots of added details.

Also see the video training at:

<https://poolpaint.com.au/info-bank/video-tutorials/>

V790 is a great and durable coating but requires consistent dft (Dry Film Thickness) of 100 -120 microns (in minimum 2 coats) to perform and this can be achieved with minimum of 2 coats. Consider applying full third coat, to achieve thickness consistency. Therefore, don't be tempted to spread it out. If you do, it won't last.

We can't stress this enough!

Surface preparation is a key aspect in getting the best performance from the pool coating. It probably represents 90% of the overall success. So, spend time and do it once and do it well.

1.3. Before you Start: (Leaks, Weather, Other Repairs)

- Look at the overall project and plan it in easy to manage stages.
- Carry out any borderline tiling, paths, decking etc before the resurfacing.
- Check weather conditions for the next 7 – 14 days. (dry, warm, with low humidity)
- Check tools, and products on hand for repairs, application.
- Check health and safety.

1.4. Leaking Pools

If the pool has been leaking, then it's important to determine the cause. To make sure it's leaking and not just evaporation, fill pool to its normal level and also fill a bucket of water and place close to pool edge. Mark water levels on both. Wait 24 or 48 hours and compare changes. If same decrease in levels, then its evaporation and if pool water has gone down more than bucket water, indicates a possible leak in the pool. It may be best to let pool continue to lose water till it stops. Then determine cause.

✓ If at bottom of skimmer box, infers leaks here or in plumbing.

✓ If at a level where pipes leave or enter pool, then leaks there or in plumbing.

✓ If at some other level may mean cracks in concrete or fibreglass pool.

✓ If to nearly empty, then probably hydrostatic valve leaking.

Due to recent drought and then floods, some pools have moved slightly, and the pipe work has fractured. This has been reported in areas of clay type soils. So, if in doubt get pipework pressure tested, See "Leak Detection" on the web. Have pipework issues attended to before paint.

1.5. Weather

In considering when to apply V790 look up the weather over the next few days so as to have the best conditions. If need be, wait till the weather is right as trying to beat it may mean an inferior application.

NOTE: V790 and E4115 are MOISTURE SENSITIVE products and require completely dry substrate to adhere to. It also requires dew free (8 hours / 20 C) period to cure so the process is not affected. E2100 primer can be applied over slightly damp surfaces. V 790 and E4115 require dry surfaces. Make sure they are.

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!!

- ✓ The best time to apply is when the ambient temperature is between 15 – 28 C, warm and sunny, with light winds.

- ✓ DO NOT apply if surface temperature is below 10 C or going to fall below this within 4 – 6 hours. (At below 10 C surface temperature, the curing hibernates, till it reaches above 10 C. again).

- ✓ Consider a cover and gas or electric (inside) heaters to warm up if need be.

- ✓ Best not to apply when ambient temperature is over 30 C, as it will significantly shorten the working life and too hot for you to work effectively, and the solvent might evaporate too fast for consistent thickness.

- ✓ If rain is expected within 12 – 18 hours of completing the application, DON'T start. (A waterproof cover excepted)

- ✓ Apply in early - mid morning in summer and when the dew has dried out in winter, and finish before or soon after lunch time. In winter, best paint the last 2 colour coats in the mornings, giving enough time for the product to be on its' way to cure, before the dew arrives. Protect from dew, if possible.

A well-fixed tarpaulin / marquee can help mitigate some bad, wet, cold or hot weather and

Pool Cover: 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 coating. (Windblown 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.

1.6. Health And Safety

Working around a pool requires care. Make sure you or children (and pets) do not fall in

- ✓ 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.

while you have the gates open and are working in the pool.

- ✓ 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 V790/E4115 protect yourself properly. (See details later)

1.7. Emptying The Pool

You will need to empty the pool and it may be done via a siphon, a submersible pump or sometimes the backwash feature on the pool. A siphon, allow 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 \$150- 250.00 from Bunnings or good plumbing suppliers).

You will usually need to keep the hire pump for several days to empty out the cleaning residues.

When emptying the pool note the following:

- ✓ A Hydrostatic valve should be in the bottom of pools (If not proceed with caution)
- ✓ This valve is to release any 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.
- ✓ You may choose to empty the pool in 1/3rds to see if any issues. (1/3 each day and monitor result and watch to see it does not "lift up - pop out", and if it does refill quickly).

1.8. Ground water Issues (see INFO SHEET Assessing pools for ground water issues)

If pool on hillside, at bottom of dip, in wet soil or near sea or lake, then ground water levels may be an issue. This is known as hydrostatic pressure and if present can cause the pool to be unstable in the ground.

Some pools may have an inspection point (standpipe) 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.

Hydrostatic valves may leak after pool is empty, this can be dealt with by using a 1 Metre x 50 mm standpipe screwed into an Iplex 50 mm Press Adapt Valve, (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 the 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 $\frac{3}{4}$ way up the wall from the bottom. You will need to move them to paint behind them.

Consider replacing the Hydrostatic valve, when pool empty. (See a pool shop).

Most pools in "dry" Australia are fine when empty though should not be left too long in this state, especially fibreglass ones. If heavy rain is imminent when pool empty, its suggested to fill about $\frac{1}{3}$ – $\frac{1}{2}$ full to give stability.

As a general guide leaving a pool empty for longer than 2 – 3 weeks is not recommended.

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

1.9. Equipment Needed

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

| | |
|--|---|
| Empty Pool: | Submersible Pump (hire) or hose for siphon and wastewater outlet from property. |
| Surface Preparation: | |
| <hr/> | |
| General: | Brooms, rags, buckets, sponges and old towels, respirator and suitable filters. |
| Grinding- Sanding: | Angle grinder (hire) and plenty of discs, (Flex O vit from ZEC), (Norton Sanding Discs), (Josco Flapper or Bluestrip) or Orbital Sander, goggles, dust masks, overalls. (ALL from Bunnings) NB: Use dustless / vacuum sanders. |
| Water blasting: | Water blaster (1500 psi for general cleaning, 5000+ psi for old paint removal) (hire), overalls, gloves and full-face mask or goggles. Consider Ultra High-Pressure Water blasting at about 40,000 psi, (contractor) |
| E 2100 /FP V790: | Overalls, gloves (disposable), goggles and barrier cream (to make it easier to wash your skin) |
| Mixing: | Electric hand drill and stirrer. (450 - 600 rpm) Bunnings, DTA 80mm ribbon mixer. |
| Application: | Roller Trays, (a spare one) Handles and Extensions. 270 mm wide is suitable (wider makes corner work difficult) 5L straight sided bucket(s). Local Paint shop. Bunnings. |
| Brushes: | 35- 50 mm, professional quality (\$10 – 15) Paint Shop. |
| Roller Sleeves: | (e.g. Draylon, Mohair or similar, solvent tolerant). Use 8/10/12 mm nap (Use short nap for smooth and longer length nap for rougher/uneven surfaces) Buy <u>good</u> (\$15 – 25) quality. ALSO, 3ins (75mm) sleeve for corners. Can use lamb's wool sleeves on rough/uneven surfaces. |
| Spray Application: | Airless unit, 2500 – 3000 psi, 519 – 515 tip. |
| Masking tape: | Painters Green Masking Tape - Paint shop. |
| Line Marking: | Texta Jumbo Liquid Chalk. |
| Surface Temperature: | Infra-Red Thermometer, from Jaycar QM7218, \$35 |
| Wet Film Thickness Gauge: | Dulux Protective Coatings Wet Film Thickness Comb \$8.00 |
| Measuring Scales (for small amounts): | 1kg Digital Bench Scale Jaycar QM 7264 \$199 (for accurate measuring of Resin & Catalyst and to prevent under or over cure) |

1.10. **Materials** (for surface preparation and application)

Grout: For concrete type pools, as needed for repairing drummy areas, holes etc:

- Bostik's Patchfix Paste or similar, ph. 1800 621 221
- Megapoxy PM or P1, Vivacity Engineering. Pty. Ltd's, ph. 02 9875 3044
- Sika's Sikadur-31 ph 1300 22 33 48
- Selleys Aqua Knead – it. (Smaller areas, cracks) (Bunnings)

Cement based fillers: For concrete type pools, repairing drummy areas and (blow) holes etc: (must be suitable for water immersion).

- RLA Just 2 Easy and RLA Uniprime (from Tile Shops) Use in thin layers.
 - Maxplug (for deeper holes)
 - Davco SMP EVO (From Bunnings and Tile shops)
 - Bostik Findley Patchfix Structural** HB or FS, 03 9279 9222
 - Sika Mono Top 620** 1300 22 33 48
 - MasterEmaco N 5100** BASF 1300 227 300. Usually at Mitres 10's.
- ** For larger areas as more cost effective.*

Skim Coats: For uneven surfaces. To flush up.

- Dunlop Fine coat render + Bondcrete
- Also, from above Sika Monotop 610 and Master Emaco N5100

Sealants: For moving joints, cracks.

- Emerseal CR (from Parchem 1800 624 322)
- Sika sil- Pool. From Bunnings
- Sika flex 291, 11FC or Pro – from Bunnings
- If painting over sealants use Urethane, NOT silicone-based sealants.

Leaking concrete: (Inc Hydrostatic Pressure)

- Drizoro Maxplug, Quickset Watercrete or similar from Bunnings, for stopping leaks.
- Ardex WPM 300 – dealing with Hydrostatic pressure - (Ardex Australia 02 9851 9199)
- Vandex (Parchem) or Krystol or similar before the skim coat / primer coat. Use as per manufacturer's instructions.
- Contec C1 (https://www.conpro.com.au/product_items/contec-c1/)

Rusted steel work:

- Anticorrosive primer such Rustgard, Cold Gal, Quit Rust or Kill Rust, from paint shop.

Cracks in concrete: (Small cracks non-moving) Good hardware shops.

- Araldite - Super strength
- Bostik – Titan bond
- Selleys – Ultra clear
- Larger non-moving – see grout, above.

Cleaning:

- Acid Etching: Hydrochloric acid – from pool shop
- Cleaner/Degreaser: Water based Degreaser 5 L e.g. Diggers, Kenco, Pearless, from Bunnings
- Algaecide Treatment: Such as Lo Chlor Tropiclear / Tropical Pool Algaecide (or local recommended type, from most pool shops)

Coating: **THE PRIMER:** E2100 WB Primer 4L packs, please add up to 30% of water to each supplied E2100 x 4L pack.

PAINT N FORGET V790 packs (Part A Base 4L & Part B Hardener 1L) Total 5L in selected colour(s),

THE THINNERS: V790, 4L V111 for cooler applications, 4L V112 for summer application.

2. Chapter Surface Preparation

2.1. Surface preparation: (clean, repair, dry and then paint)

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

IMPORTANT: Fluoropolymers are moisture sensitive and require both dry surfaces and conditions to cure.

✓ V790 will not bond to contaminated surfaces. (NOTE: **Acid DOES NOT clean surfaces ONLY detergent will.**)

✓ May be applied only to concrete/plaster surfaces, previously 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). Will blister.

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. When tapped sounds hollow or drummy! Use a coin, screwdriver, 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

2.2. New Concrete Render:

✓ Ideally should have a VERY “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). Create fillets/coves in all corners to aid pool.

✓ cleaning. Any brick work needs to be secure and rendered too. Coated with V790 such surfaces will look great.

✓ No major cracks should be visible. If in doubt, contact us first. (Hairline cracks ok).

✓ 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 sand - cement or Just to Ezy, MasterEmaco N 5100 or refer Chapter 1.9.

✓ Any general depressions etc. may be filled with MasterEmaco N 5100 as a skim coat to 3 mm max thickness, or refer Chapter 1.9

✓ 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 Chapter 2.4

✓ Allow to dry. (2 - 3 warm / windy days)

2.2 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 a long lasting, attractive, easy clean finish.

- ✓ 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 to be used. Check surface conditions as you go.

- ✓ Carefully check all surfaces, tapping to find “drummy” areas and digging into soft locations, to understand the extent of the condition. Refer Chapter 2.1 above.

- ✓ 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 anticorrosive primer. 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.

- ✓ Rebuild any removed surfaces to match existing, with mortar if areas small. Other wise use a Cement based Filler (Chapter 1.9), Allow to cure. Sand flush to match adjacent areas.

- ✓ Any general depressions etc may be filled with MasterEmaco N 5100 as a skim coat to 3 mm max thickness or refer Chapter 1.9.

- ✓ If necessary, apply algaecide to kill algae roots. See Chapter 2.5, below.

- ✓ Then Acid Etch, see refer Chapter 2.4

- ✓ Allow to dry. (2- 3 warm / windy days.)

2.3. Previously Painted (Cement, Marblesheen or Pebblecrete)

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 to see if, chlorinated rubber or acrylic.

- ✓ 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 Supplied Thinners or Acetone based Nail Varnish remover).

- ✓ 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 the moist paint forms “sticky” strings if touched repeatedly with the finger, the paint is most likely Chlorinated Rubber.

- ✓ To check for Acrylic paint, follow same process but use Methylated (Meths) Spirits. It will soften acrylic paint.

- ✓ This can also be done with pool full of water, but you will need to be quick so as to see the result and not put too much solvent into the pool water.

- ✓ Paints that are not dissolved by Xylol (Thinners/Acetone) and may be over coated.

- ✓ Others (or not sure), call us.

- ✓ 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 Chapter 2.2

If it is **Chlorinated Rubber (Or Acrylic/Oil Based** – unusual in pools) paint, all these are NOT compatible. They must be removed before applying skim coat - V790 system.

- ✓ This is best done by Sand (Abrasive) or Soda Blasting, carried out by a professional. It's not easily done by a painter. 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. Also make sure blasting contractor removes all residues.

- ✓ 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.

- ✓ We recommend applying a skim coat over all clean Pebblecrete surfaces, See, Chapter 2.3 for details.

For **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 Chapter 2.2 above for more details. Can use Tri Sodium Phosphate as alternative cleaner. Sugar soap is NOT to be used.

✓ 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

✓ Consider Ultra High-Pressure Water blasting, 40,000 psi (contractor) as an alternative approach to above.

✓ Rebuild surfaces to match existing with epoxy mortar if areas small. Other wise use a Cement based Filler, Refer Chapter 1.9, for larger areas. Allow to cure.

usually provides the best solution and it should then be ready for recoating. The end result should be a profile of about 60/80 grit. Clean and remove all debris, with clean, freshwater wash (mild water blast).

✓ High pressure water blaster (5000+ psi) may also be successful in removing oxidised, loose paint as an alternative to abrasive blasting. Check effectiveness, however. (It may not allow for the best adhesion with the new coatings)

✓ Skim coat, see Chapter 2.3

✓ If necessary, apply algaecide to kill algae roots. See Chapter 2.5.

✓ Only where concrete/plaster exposed by grinding/sanding/blasting, then these should be acid etched and rinsed thoroughly – Chapter 2.4.

✓ Allow to dry, (2- 3 warm / windy days).

2.4. Acid Washing. (For ALL calcium-stained pools too)

Before Skim coat (and Algae removal) , 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 33% conc) mixed with 2 (or more) parts water). Mix in a plastic bucket. Always add Acid to Water, **not** the 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.

2.5. Algae removal:

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

- 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.

- Apply skim coat, see Chapter 2.3

2.6. Expansion Joints/Stress Cracks/ Random Cracks

Cracks in concrete pools 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 watertight seal. Use Emerseal CR or similar from Parchem. A normal poly urethane sealant (Bunnings) may do as an alternative, but make sure suitable for water immersion. We have more details available on joint design. Just ask.

Random Cracks: if smaller than about 0.5 mm (hairline) maybe coated with **E2100** as a "spot primer" before first overall coat, to fill them in. If more than this usually means area may be drummy (see Chapter 2.1) or there may be 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.

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

These sealants may be over coated with the V790 , however this 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 V790 onto sealant, use tape for straight line.

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

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 affect curing if too much used. Can also use on trowels for same result. Do not apply mortar/sealant to wetted surface.

2.7. Leaking Concrete (incl. HYDROSTATIC pressure)

Sometimes you will find water (ground) seeping into the pool and this maybe from high water table, leaking water pipes (check these and fix), underground streams and generally comes through cracks or weak /porous areas of the concrete. Refer to [Info Sheet: Assessing Pools for Ground Water Issues](#), to understand more fully what to look for and save yourself expensive trouble later on.

It will be necessary to stop this otherwise the V790 may not adhere to the surface. If the water comes

from cracks etc, dig out, check on the cause and if need be, stop water using something like Drizoro Maxplug (Bunnings) Or Vandex waterproofing or similar. Follow their instructions. Flush surface off with same or Just to Ezy. Or refer Chapter 2.2. Consider the prospect of water seepage after application too. (Poor drainage/construction) Try to prevent by sealing surface – Contec C1 or Ardex WPM 300. If pool previously painted and has bubbles or blisters in the old paint, it's a sign that hydrostatic pressure may be at work.

2.8. Tiles: (water line or whole pool)

Water line tiles may need to be upgraded as part of the pool renovation process as some tiles are missing and cannot be replaced, or the old tiles will not match up with the new V790. Generally, it is not desirable to apply V790 to tiles, however if there is no alternative it may be done.

The reason for NOT favouring this approach and no warranty is offered, is due to getting good adhesion of V790 to the tiles and grout. Also, the fact water can get behind the tiles and grout, pass through the grout causing the coating to blister and fail. Finally, leaching water running over tiles may cause staining to the V790 below.

The result is an unsightly mess and difficult to resolve. For a whole pool this is even more of an issue and should not be painted.

- Ideally existing tiles if generally okay are best cleaned and re grouted as necessary. See a tile shop for suitable cleaners.

- Any tiles to be coated need to be in sound condition and well adhered. Remove the glazed tile surface using grinding or sandblasting. All grout needs to be flush (repair if needed) with tiles as much as possible.

- All surfaces to be clean and free of oils, fats, algae, and mould. Follow directions in Chapter 2.1 as a general guide.

3. Chapter. Application

3.1. Prepare to APPLY

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.

Start about 7– 9 am in Summer and 9 – 11 am in Winter (after dew dried out). 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 V790 and will affect the curing. (See Chapter 3.3 for more details)

Ensure surface to be coated is thoroughly clean and dry to touch. Generally, you may start a **E2100** primer coat (**not top coats!**) 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. Any

areas that still have a moisture can be wiped with acetone which should help it to dry.

The **surface** temperature should be above 10 C for best curing and do not apply if surface temperature is below 5 C or is going to fall this low within 6 – 8 hours of application, as curing will stop.

Spray Application: V790 may be spray applied. Use an airless unit of 2500 - 3000 psi and tip of about 519 size. May find a 515 tip better. Keep spray lines as short as possible to reduce clean up. Also add up to 5% thinners to aid application. V790 may pin hole if not sprayed correctly. Watch coverage rates. (See section 12) Generally even on the biggest projects roller application provides a good, labour efficient finish. (As a guide a 5-man spray team (one sprayer, 4 support) can apply one coat on about 600 sq M per 6 hr day).

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 V790.

Painting Smaller Areas; V790 only

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. Measure out (not by weight) in the ratio of 4 parts resin to 1-part hardener. E.g. **800 ml** Polymer, **200 ml**

Hardener. This will cover approx. 4-5 sq M per coat. Mix well and use immediately. DO NOT guess by volume but **measure** out amounts. Incorrect ratios will result in brown staining or uncured V790. We (may) also have available a touch up kit available which covers about 1.5 Sq M in ONE coat.

Batch Numbers:

V790 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 a set of 6 -10 digits.

Non-Slip Areas:

V 790 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 3 approaches you can use.

#1: 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. NOT Recommended.

#2: For a more definitive non-slip finish at time of application (On therapy pools, ramps etc), apply first colour coat V790 as per normal instructions, then while still wet, "Blind Out" with washed beach sand (about 1 – 2 mm size

particles) Or WA 060 Anti Slip Media, so you see only the sand/media and no V 790 grinning through. Let cure overnight. Then sweep / vacuum up loose sand/media and apply second coating as per normal instructions. It may need a 3rd coat of V 790 to provide sufficient film build, and not wear off prematurely and to provide the right "roughness".

#3 Preferred Process: Mix the supplied nonslip material (usually provided with every order) PDEX20 Anti Slip Media into the last coat of V790 at 25 gms per L of mixed product. Apply to steps, ramps etc. Stir often to keep consistency uniform.

We do not recommend using V 790 on pavers and pool surroundings as it is quite slippery. Consider Megatreat Liquid stone or Tredgrip products (Call us for more information)

Murals and the like:

Your client may like to have murals on the pool walls using V790 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. 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 anywhere seems fine. If too deep in water effect is often lost. To make different colours mix up sufficient V790 Resin and Hardener (touch up kits) in the key colours and then mix in any colour mix you require much as for oil paints. You have about 60 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.

Is Surface Really Dry?

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 for Hydrostatic pressure issues. If too wet, once painted with V790 it will draw moisture under the coating and may cause blisters to develop. This will be more likely with darker V790 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.

Application of V 790 on damp – wet surfaces may result in loss of adhesion and coating failure.

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

3.2. Application

V790 is normally applied in 2-3 coats. On porous, friable or soft surfaces a Primer coat of WB epoxy E2100 is used. This binds and seals the surface to provide a longer lasting finish. On rough, uneven surfaces and smooth uneven textured substrates should be skim coated before application of E2100–Primer, to provide suitable surface. Note: V 790 is a “thin” coating and does not hide surface imperfections or rough profiles. A 3rd coat of V790 in high wear areas is recommended. A 3rd V790 coat will add life to the coating in high wear areas, by giving greater thickness.

- Most pools are about 9 x 4 M and 1 – 2 M deep and will give an area of about 75 – 80 Sq M. HOWEVER do measure your pool and work it out correctly. Contact us if not sure. Under measuring will lead to insufficient V790 and a shortened life.

- Porous, rough and high wear areas need more material than smooth surfaces or (low wear areas) like at the deep end.

- Dew, mist, drizzle, rain, frost, cool moist air or contaminated run off water will cause a partial V

790 cure, meaning inferior performance and lower gloss level and discolouration/ fading. This is more so in cool climates with low ground temperatures, and shaded areas or below leaking pipes. Dark colours will make any such issues more noticeable.

- Before starting application check Chapter 3.1 .

Apply only in early mornings, from 7 – 9 am summer (9 – 11 am in winter) till noon, **and no later**. Dew, mist, drizzle, rain, frost, cool moist air or contaminated run off water may cause a white film (or stains) to form on the coating, before its cured. This is more so in cool climates with low ground temperatures, and shaded areas or below leaking pipes. Dark colours will make any such films more noticeable.

Set up: Select an area where you can mix materials (On flattened carton, old sheets) away from the pool edge and traffic areas. Often the shallow end of the pool works well. Avoid any spillage of solvents/thinners over previous coat this can affect adhesion.

3.3. Primer E2100 Required

Surface to be clean, sound and dry (damp acceptable), NO Ponded water.

- ADD all of PRIMER Part B (Hardener) into PRIMER Part A, (Resin), there's plenty of room.

- Scrape out remnants of Part B into Part A.

- Mix for several minutes until uniform by hand or slow speed mechanical mixer.

- When FULLY mixed, ADD clean water about 1L for each 4L pack.

- If using smaller amounts, then the ratio is: 1:1:0.3 of Part A to Part B to Water all by weight or add 50% water to the already mixed A and B.

- Apply by brush – roller working well across surface to get as uniform cover as possible in up down, left right pattern (See diagram below, Chapter 3.4)

- Note that on vertical surfaces it will tend to run so do not try for a high film build but be consistent. Make sure no surfaces unprimed as will cause loss of adhesion of topcoats. **Working life:** 0.5- 1 hour at 20C. Do not use after this OR when it starts to go stiff in the container but discard safely.

Min application surface temp; 5 C

Primer E2100 Coverage rate 4 Litre pack

| Coverage Rates | Bare Concrete | Blasted Surface | Cure Time | Temp |
|-----------------|---------------|-----------------|-------------|------|
| Sq M / L Mixed | 8 - 12 | 7 - 10 | 12 hr | 20C |
| Sq M / 4 L Pack | 32- 48 | 28 - 40 | 16 - 24 hrs | 10C |

Note: apply 2 coats if very rough or absorbent surface.

3.4. V 790 Colour Coats

V790 MIXING (See Video <https://poolpaint.com.au/info-bank/video-tutorials/>)

- Pour the content of part A (Polymer) and part B (Hardener) into a clean 7L pail.

- Power mix with the stirrer, max 600 rpm. Use slow steady action mixing up from the bottom and try not to get onto the upper insides of the tin.

- Do not entrain air as this will cause aeration leading to porosity of the cured coating. (see the online video for more detail)

- Mix for about 3 – 4 mins, scraping sides and bottom to get a completely homogenous mix.

- Use immediately, don't wait. No induction period.

- Pour about half into your roller tray or other vessel to apply from.

- We recommend mixing about a 1/4 to 1/2 pack to "cut in", so does not start curing, before you start on the main areas. See 3.1 Painting Smaller Areas

- Be careful not to add any unmixed material (upper insides of large tin) into the roller tray etc. as this will leave partly cured material on the pool surface. Will not fully cure.

(If mixing several packs at a time, write on each one the time, so as to use sequentially, and note time of pot life.

THINNERS: Supplied thinners V112 are to be added to the mixed product in the process, as the solvent premixed with part A will evaporate fast. Add it when you feel that the polymer on the brush or roller is starting to get thick (muddy) and hard to apply. **IT IS IMPORTANT TO MAINTAIN CONSISTENT THICKNESS FOR THE BEST RESULT.** We suggest no more than 5% (250ml) put in to 5L pack at one time. Although they can be added in a process "as you go" when they start to evaporate.

Note: avoid spill of thinners over FP coated surface if it is cured for less than a week. This will affect adhesion and the topcoat to peel off.

APPLYING

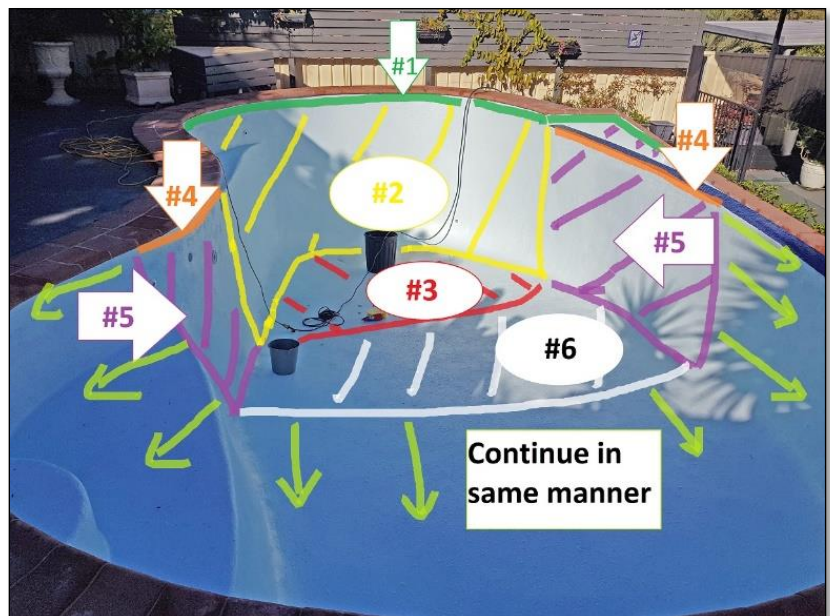
Surfaces to be clean, dry and 10 C or higher with no rain expected for 24 hours (or longer in cool conditions.) **Max humidity 85%.**

Generally, start on the wall at the deep end and cut in to the top or tile line, (#1 green) and move around to the 2 long sides, cutting in till around ¼ along. Then Stop. Then coat the end wall (#2 yellow) and coat the floor (#3 red).

Cutting in again, (#4 orange, for a few M) then walls (#5 purple) followed by the floor (#6, white). Then continue in same manner (#7) to the end. Cutting in as you go, where needed, followed by walls then floor. Don't forget to paint you way up the steps.

Follow sequence #1 – 7

After mixing pour (half) the material into a roller tray (or other vessel) and use a brush or



roller to cut in. Use correct nap roller for the surface profile.

- If too sticky, (you will soon know), then add Supplied Thinners. The best way is to half fill an empty hardener tin with supplied Thinners, and then pour some of that into the tray, (about

5%) and mix in. If okay to apply, then continue. (Or add some more thinners as it starts to thicken up)

- **Note: A little thinner makes a big difference to the viscosity. Avoid spill of thinners over FP coated surface if it is cured for less than a week. This will affect adhesion and the topcoat to peel off.**

- Once you have figured out how much thinners the first pack needs, add the same amount for the remaining packs as used in that coat, with the empty hardener tin as a measuring device.

APPLICATION TECHNIQUE for all coats:

- To apply by roller, load it up evenly, and apply to the middle of about a 1 – 2 sq M area, and apply in one direction, then roll across at 90 degrees to spread out. Like an “H” pattern. (1, then 2 then 3 then finish with 4)

- See video at:

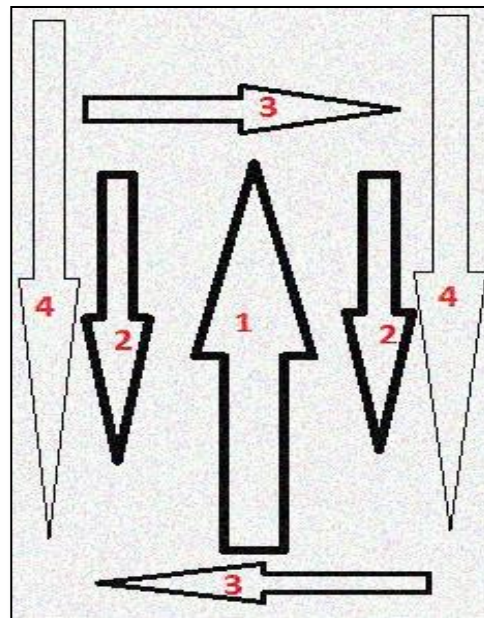
<https://poolpaint.com.au/info-bank/video-tutorials/>

- Then “lay off” in **one direction** so as to get a uniform finish. Lay off all walls and floors in the same direction such as downwards on walls and towards you on the floor.

Topcoats V 790 Coverage rate 5 Litre pack

- To get a uniform film build, apply evenly and spread out well, **but follow coverage rates** for the type of surface you are working on. See above tables for coverage rates.

- Do not go back over any “laid off” area, though slight overlapping when applying adjacent panel.



Minimum Application Temperature 10C – surface / ambient.

Do not apply if surface (ground) temperature is below 10 C. Will not cure well. And is surface DRY?

| Coverage rates | Concrete / Render - Smooth | Pot Life, Temp | Pot Life, Time |
|---|----------------------------|----------------|----------------|
| Sq M / L | 8 - 9 | 15C | 3 hrs |
| Sq M / 5 L pack 1 st coat | 40 -45 | 25C | 2 hrs |
| Sq M / 5 L pack 2 nd & 3 rd coats | 45 - 50 | | |

Desirable thickness (film build), per coat 60 microns dry approx. 120 microns dry in two coats. About the same thickness as housepaint

| Cure time, 50% RH, | | |
|--------------------|----------------|------------------------------|
| Touch Dry | 5C / 15C / 25C | 10 / 8 / 4 hours resp. |
| Recoat | 5C / 15C / 25C | Min; 24 / 16 / 8 hours resp. |
| Full Cure | 5C / 15C / 25C | 14 /10/ 7 DAYS respectively. |

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.

Sometimes DRY bubbles form due to air being trapped in pockets beneath the curing coating and these cause blisters as the air heats and expands, (dark colours).. When applying a second coat use a small (artist) brush loaded with paint to fill the open craters.

3.5. Added Notes about Application

- Keep roller (or brushes) wet during application.
- The correct coverage rate is important for long term life, so use markers (Stones on top of coping) etc to figure out about how far one pack should cover. In an average pool, markers about 5 M apart on the long sides, will mean an area of 25-35 sq M, BUT measure the pool to be sure.
- In some pools you will use say a total of 5 packs, so make it 3 packs on first coat and 2 on second coat.

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!!

- The nominal film thickness per coat is 60 microns (dry) or 120 (wet). Use the Plastic Wet Film Comb to check as you go along. By doing so you will ensure correct film build. You will get variations but aim to get at least this amount per coat.
- Cured material will be difficult to remove from any surface (or skin) so wipe up immediately with a cloth.
- Allow to cure overnight (16 hours or longer if very cool) before applying further coats.
- Do not walk on painted surfaces until cured.

- To help you decide where each pack starts and stop place some markers on the side of the pool such as stones or bricks, where you need to stop pack one and start pack 2 etc. Then in the case above with 5 packs, move markers to reflect the changes for each coat. That is just move them a bit farther apart and remove one set.
- If you end up with a pack left over after 2 complete coats then apply the last pack on the next day to the shallow areas, steps, swim outs etc as these get all the wear and need a thicker coating to last.

-
- If more than 72 hours between coats a light sand with #60 grit paper to remove the gloss, will be required before applying the next coat.
- Wash up rollers, brushes in Thinners Supplied (Or discard correctly).
- Do not use thinners to remove paint from skin, but rags and water/ detergent. Section 15.
- Remove any spilt paint from paths, tiles, slates immediately. Once cured hard to remove.

ADDITIONAL COATS:

- V790 is designed to require 2 coats at the correct coverage rates.
- Apply 2nd coat in the same manner at the first full coat.
- A 3rd coat needs to be applied if you have material still left over after 2nd coat, as not enough film build, (thickness), reached so far. Apply as per the 2nd coat. Focus on shallow end, steps etc.
- Consider applying the last coat in 2 separate applications a day apart, if concerned about short time prior dew setting in. Remember it is important to give the coating

time to settle before it can be affected by the moisture.

- Pay attention to the outside corners and ridges, maybe apply additional coat over those areas as they are naturally thinner with the application and will show wearing off very soon, if too thin.
- Shallow areas, beaches, swim outs, gutters – handholds, ledges and shelves, should get a bit more material as high wear areas, relative to the bottom at the deep end, which has less wear and tear generally.

- Any leaves, insects etc that have fallen onto the wet V790 should be carefully removed as soon as possible after the coating is cured and before succeeding coat(s) applied. Any well adhered organic matter in the last coat, will usually dissolve over time.

- Line markings: can be done after the last coat is cured and use masking tape to set out the areas to be painted. Apply Black or Navy Blue (White also) by brush or small roller. Apply within 72 hours of last coat being fully applied. Ideally 2 coats should be applied for maximum life.

4. Chapter. Curing

- Allow the V790 to cure for 7 days in summer and 14 days in winter before refilling with water and chemicals.
- Keep moisture, rain, drips and running water off the curing surface during this time as this may affect the curing. Pump out the rainwater when practically possible.

- The rate of curing (and final colour) will be affected by surface temperature, humidity and overall weather conditions and may be hastened or retarded as a result.

- See the ATTACHED “Maintaining your pool water and coating for maximum life” for complete details. If you don’t have, please ask for a copy.

To determine if cured enough to fill pool:

Get a clean white cloth or paper towel and make into a pad about the size of 50C coin. Well saturate the pad with IPA (Iso Propyl Alcohol. From chemist) Rub the wetted area over the dry paint, in a up down motion (say 50 – 100 mm, stroke) and remove. Any paint - colour on the pad indicates it is NOT cured and no water should in the pool. Repeat if necessary, until no color is on the wetted pad surface

5. Chapter. Management of the Pool

Looking After The Pool

- Once the pool coatings are fully cured it can be filled with potable water.
- Any and ALL chemicals inc salt, MUST be dissolved and then pour into the pool, NOT dumped in and expect the pool pump to circulate, though pump should be functioning as the diluted chemicals are added.
- Bring pool to balance and maintain it in the correct ranges continuously. (24/7) for best results, less costs and better coating performance.

| pH | 7.2 – 7.6 | Temp | 5 – 36 C |
|-----------------------|-----------------------|--------------------|------------------------|
| Total Alkalinity (TA) | 80 (min)–180(max) ppm | Chlorine Levels | 1 – 3 ppm (not higher) |
| Calcium Hardness (CA) | 250–350ppm | Watch CA carefully | |

- Pool regularly cleaned, brushed (at least each 2 weeks in summer and monthly in winter).
- Check water balance at least twice weekly in summer and monthly in winter.
- Pool chemicals to be correctly mixed and not dumped into pool,
- Pool remains full of water (unless winterized)
- If using a Cu/Ag system monitor and keep ion concentration low to prevent staining.
- Get an LSI result each time you have pool water tested for better indication of the pool water balance. Needs to be **always** -0.3 to + 0.3. Discuss with pool shop if outside this range.

Full details in Separate “How To Look After Your pool Water And Coating For Maximum Life” from Applicator or HT. Contact us via email to request.

FOR MORE INFORMATION, PLEASE REFER TO OUR WEBSITE POOLPAINT.COM.AU

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