Swimming Pool Relining

The spec shown below lists all the steps to do a successful application.

1. SURFACE PREPARATION

1.1. All surfaces should be cleaned of all obvious contamination, dirt, grease etc. Before the application of any Duroplastic Resin coatings, grinding of the entire surface should be undertaken, using rigid disks, to a 36-80 grit profile. Care should be taken to thoroughly scour the substrate to provide adequate "tooth" for the coating system.

1.2 Check the pool for existing cracks and leaks and repair these with cement grout. Large cracks should be repaired with cement grout, which, when completely dry can be primed with Resin and covered with glass fibre surfacing tissue. Once the tissue has fully cured it is recommended that it be lightly sanded in order to give good adhesion to priming coat.

1.3 If the pool has been painted, then all traces of paint should be removed with a heavy duty paint remover. However, should this method fail to remove the paint then it is recommended that the pool be sandblasted. (Important: should a paint remover be used, allow it to dry, then wash the pool down with water, allow to dry and wipe down with Resin.

1.4 Clean the walls and bottom of the pool thoroughly and remove all traces of foreign residue.

1.5 Wash the concrete walls with a solution of 1% Hydrochloric Acid, allow this to dry then wash down with water. The walls and bottom of the pool should be completely dry before continuing. (Important when washing pool with acid, use rubber gloves and goggles to protect hands and eyes).

1.6 Ensure that the concrete is dry. Polyesters will not cure on damp surfaces. To allow the moisture absorbed in the concrete to evaporate, it is recommended that work on the pool should not commence unless the pool has been allowed to dry in the sun for a period of 72 hours.

2 APPLICATION OF DUROPLASTIC PRIMER TO SURFACES.

2.1 Make sure all surfaces clean and ground as described above. Use clean uncontaminated air to blow clean.

2.2 Thoroughly mix Duroplastic P302 Tie Coat (Iso) Resin according to spec. Thin with Duroplastic Tie Coat Resin Reducer (Styrene) to appropriate viscosity maximum 3 % styrene;

2.3 .Duroplastic P302 Resin primer should be applied in Wet Film Thickness of at least 150-250 microns, with 300 microns being the maximum normally achievable. Ensure complete coverage. Surface should be allowed to dry for 1-2 hours . This should be applied with a paint brush or Lambswool roller

An alternative for excellent bonding is Duroplastic Vinyl Ester Resin VE001.
(NOTE certain synthetic wool rollers will dissolve in polyester resin and should not be used).

3 APPLICATION OF DUROPLASTIC FIBRE/RESIN COAT

3.1 Measure out the amount of CSM 450 gm/m2 to be used . Cut in sizes that can be used in a 1/2 hour working period. Also measure out the quantity of tissue to be used. Cut in lengths as long as the vertical parts of the vessel/pool. The floor can be applied in full lengths.

3.2 Mix Duroplastic P302 Resin according specification (MEKP 0.5 - 2 % catalyst). Ensure thorough agitation of

catalyst. Mix enough for 1/2 hour working period . For example 3 kg in 20 Deg C .Add the required amount of MEKP catalyst to the resin sequentially i.e. container 1 first, then container 2 once all of the contents of container 1 have been applied.

Remember that to wet out 1 m2 of the tissue and CSM 450 gm/m2 1.2 kg of resin will be necessary.

3.3 First apply the P302 resin to the Tie coat then apply CSM to area . Wet out the CSM with a Lambswool roller. Consolidate with a roller.

Immediately apply the tissue over the wet CSM . Rework the surface with the lambswool roller. Do not use a roller on the tissue.

Work quickly and overlap slightly (75mm for CSM and 100mm for tissue) between coated areas.Work firstly on the walls and then on the floor towards a corner, preferably at the shallow end of the pool.

When the entire pool has been sheathed, allow for a minimum of 4 hours to dry before continuing.

3.4 Variations in temperature of the environment and the concrete substrate will affect the gelation and curing of Resin. Low early morning temperatures, or low winter temperatures will extend gelation and curing times of the priming layers and longer periods between completion of priming and commencement of laying up will be necessary. Typical minimum periods which should be allowed between priming and lamination at various temperatures and using various catalyst concentrations are listed in the specifications . NB: Do not exceed 2%MEKP.

3.5 Allow Resin/Fibrecoat to dry overnight. Finish sand surface to remove all high tex or raised spots with 180-220 grit abrasive. Larger areas are best sanded with dual action sanders, finish sand with 220 grit abrasive - 320 grit if sanded by hand.

3.6 After final sanding, blow clean entire surface with dry, filtered air. Do not allow surface to be contaminated prior to gloss application. Proceed to topcoat application as soon as possible, to avoid contamination. If impractical to continue however, surface can be left at this stage for extended time.

4 DUROPLASTIC TOPCOAT/FLOWCOAT APPLICATION

4.1 Sand primer smooth as per above, and solvent wipe the surface using Acetone

4.2 Mix parts Iso/NPG NPG-F710 or NPG-F720 Pool coat / Flowcoat / Catalyst according to spec.

4.3 Inspect the laminate surface for irregularities and repair these before continuing. Ensure that the degree of cure of the laminate is satisfactory prior to commencing finishing. A minimum Barcol Hardness value of 30 to 40 is required before finishing commences.

4.4 Duroplastics Topcoat is a polyester surfacing resin which is waxed and has been formulated to allow good coverage with a single application. Should it be necessary to coat over a dried film it should be sanded before application of the top coat. Failure to do this will result in poor adhesion to the top coat.

4.5 Duroplastic NPG Resin Topcoat should be catalysed with the required amount of MEKP for the prevailing temperature, the amount which is catalysed should be that which can be easily used within the anticipated working time of the resin (as determined in Spec sheet).

4.6 The catalysed resin should be applied at the rate of 500 gms/m2 by paint brush or lambswool roller, using long even strokes, and ensuring even coverage If a spray system is to be used apply to 175 - 200 microns (Only one coat is necessary . If two coats are required the complete first coat needs to be sanded down as a wax additive is used.).

4.7 Once completed, the waxed finishing layer should be allowed a minimum of 72 hours to cure before filling of the pool.

4.8 If the decorative mosaic tiles are already in position, the question of where and how to stop the laminate is important. For best results on durability, the laminates should be complete and whole in every position under the water and should terminate well above the water level. One method of stopping the lining where the decorative mosaic tiles are left on is to cut a groove (using a grouting disc) approximately 2-3mm thick and 8-10mm deep in to the concrete right around the pool just below the mosaic tiles. The laminate is then taken up the line and in to the groove such that the groove is filled with resin and glass.

4.9 Ideally the mosaics should be lifted before the pool is lined and replaced once the lining has been completed. If the mosaics are to be applied on to the laminate. It is recommended that:

i the area to take the mosaics be carefully sanded to give an even wax-free and dirt-free surface.
ii the mosaics are stuck on to the laminate using either an epoxy adhesive such as Duroplastics DP55/DP85
iii once the mosaics have been stuck on the adhesive agent fully cured, the spaces etc may be filled with white cement in the normal manner.

Overview

A Best results will be achieved if the painting process takes place after all structural and mechanical work is finished on the pool.

B Take the time to clean the area well around the pool to be painted.

C Set aside a clean table or area for mixing paints and primers. Always use new, clean, unwaxed paperpots or other clean containers for mixing materials. After mixing and thinning paints and primers per below directions, always strain all materials through nylon mesh filters before pouring into spray equipment.

D Plan your work, take your time to make sure all directions are being followed and do not rush! If any questions or problems occur before, during or after application, call**DUROPLASTIC** at any time for assistance.

E Since the resin will be used in the open and exposed to the sun, it is most important that the gel time of the resin be checked before commencing work. Exposure to direct sunlight accelerates the gel time while colder weather will retard the gel and cure times. Aim for a gel time of approximately 20 minutes (for gel times at various MEKP additions see spec sheet.

H Priming, laminating, and finishing should not be started if there is a possibility of rain, as each process should be continuous until completed. Layers should not be left half finished and if insufficient time is available to allow completion of a particular step, it should not be started.

I Before commencing each step, check that each working surface is dry and free from contamination.