



DURAQUARTZ PREMIX

“Duraquartz Premix” is a quartz based pool plastering material from “Kirkside Products” that results in a smooth, durable pool finish. Duraquartz Premix is available in a range of colours.

The following information provides an overview of the application process and some guidelines covering the operation.

NEW POOLS

Overview of Process including Pool Shell preparation

All pool equipment and electrical wiring should be in place before the plastering begins so that the pool can be filled immediately on completion of the job. All other site works should also be complete, including paving, landscaping and fencing. In addition, the pool shell must be examined in detail to identify and rectify any problem areas. The overall process will normally include the following steps:

- 1 Uneven spots in the shell should be rectified by grinding down or filling. The application of a scratch coat will then assist in achieving a good bond and even curing, especially if the shell has porosity problems.
- 2 Problem areas must be sealed with hydraulic cement at least one week before cleaning and acid washing the finished shell. Any voids may result in leaks or discolouration.
- 3 After curing, the complete pool surface must be acid washed (5:1 water to acid), neutralized and pressure blasted to allow the removal of any efflorescence and debris, and to ensure a well cured, even surface which has a sufficient “key” for bonding to the Duraquartz Premix.
- 4 It is advisable to erect a shade cover over and around the pool to allow even curing of the surface and prevent direct sunlight reaching the pool interior.
- 5 Apply the “Duraquartz Premix” finish, according to the “Application Instructions”, with a consistent thickness of at least 8 to 12mm. If the finish is too thick or too thin then there may be hydration problems.
- 6 The plastered shell should be left to cure overnight, then cleaned and acid washed (3:1 water to acid or weaker). Remember, always add acid to water (not water to acid).

Application of the Finish

- 1 Following preparation of the pool shell, ensure that all water is drained from the equipment and pipes. Any leaks should be repaired at least 24 hours before application. Take the necessary precautions to protect the application site. Ensure no foreign material (dirt, leaves, bark, cigarette butts or rain etc) will fall or be blown into the pool whilst application is underway and during initial set.
- 2 When using Calcium Chloride it is essential that the calculated amount is completely dissolved before adding to the batch. This can be achieved by screening and adding the solution to water and then adding the appropriate amount to the mixer from there. **Note we do not recommend the use of calcium chloride. Note that excess calcium causes a number of problems, including poor bonding, rapid drying, crazing; colour variations and difficulties in trowelling.**
- 3 Add the required volume of water to the mixer (If you have decided to use calcium chloride, add this now as well).
- 4 Add one measured dose of oxide supplied with the Duraquartz premix to the water and allow to agitate for at least 1 minute.
- 5 Add the 4 bags of "Duraquartz Premix" to a standard 3 cubic foot cement mixer. If using a concrete pump with larger mixing capacity, please ensure one oxide is added to every 4 bags of Duraquartz.
- 6 Mix the batch for five to eight minutes after adding the last bag. Note that longer mixing times do not permit enough trowelling time, and shorter times result in a false set.
- 7 **It is necessary to keep the pool shell damp throughout the application to prevent crazing.**
- 8 Apply a layer of even thickness, between 8 mm and 12 mm; if a greater thickness is required then it must be applied in separate layers. If layers are thinner than 8 mm then they will dry too quickly, and cause crazing. Do not allow dry joints. Maintain a wet edge when joining walls to floor etc.
- 9 Spike holes must be filled with an aggregate mixture, not paste.
- 10 Careful trowelling, as for a normal plaster pool, should result in a good bond and a smooth finish. Note that proper trowelling brings the fines and mix water to the surface, reducing hydration problems and shrinkage. DO NOT OVER-TROWEL as this will bring excessive fines to the surface making the acid wash more difficult.
- 11 As part of the final trowelling, all excess paste should be transferred to a bucket for disposal. This process will allow the identification and repair of any surface imperfections.
- 12 Following application of the "Duraquartz Premix", the surface can be exposed, according to the following instructions, after curing overnight.

Exposure Instructions

The purpose of acid washing is to *expose the aggregate evenly*. A soap solution is necessary to buffer the acid and assist even application to the surface, thereby allowing sufficient contact time without over exposing the finish.

The recommended acid mix is 8 litres of water to two litres of HCl acid to 30 mL of liquid detergent. Do not exceed a ratio of 6 litres of water to 2 litres of HCl acid. The mixture should be in a suitable plastic container, with a volume at least twice that of the contents.

Proper personal protective equipment such as appropriate clothing, footwear, eye and breathing protection must be worn.

- 1 Spread a substantial layer of a neutralizing agent, such as sodium bicarbonate or soda ash, in the deepest part of the pool. This layer should cover an area of at least five square metres to avoid over exposure around the main drain. Add water to the pool so as to leave a pool of water around the main drain at least 2m in diameter. Maintain this pool of water throughout the acid wash procedure, occasionally “swishing” it around with your broom to keep it moving.
- 2 Locate a pump in the centre of the sodium bicarbonate to remove neutralized acid immediately upon completion.
- 3 Continually saturate the walls and floor of the pool with clean water before acid washing. (This will prevent deep penetration of the acid.) Don’t over-expose the surface. Remember you can always expose more, but you cannot put it back on.
- 4 Acid wash the walls from the floor up, and then the floor from the deep end to the shallow end. After about 30 seconds of contact time the surfaces washed should be rinsed with clean water.
- 5 The process is completed by spot acid washing any pasty areas, using a stiff brush. The aim is to achieve an even exposure of the aggregate, leading to an even cure. This is necessary to avoid hydration problems that would result in discoloured patches.
- 6 Rinse the pool thoroughly by pressure blasting the entire surface of the Duraquartz.
7. Drain pool immediately and ensure all acid wash residue is removed from the pool interior.

The neutralized acid solution must be removed and disposed of in an approved manner.

8. Fill the pool with potable water immediately after the completion of the acid wash. **Note that once the pool starts to fill, it mustn't be stopped.** Stopping the filling process will result in a permanent “ring” around your new interior.

Care should be taken to dispose of all residues in the recommended environmentally correct manner.

Start-Up

After removing all residues, the pool should be filled without interruptions, and the recommended start-up procedure followed. The pool surfaces should then be brushed. Chemicals in the pool should be correctly balanced and maintained at the recommended levels to prevent efflorescence. (The latter results from the formation of calcium hydroxide crystals at the pool surface, a process particularly associated with the curing of a dark plaster finish.)

The final curing process can take up to a year, but if any problems are apparent after a month or two then the pool can again be acid washed.

POOL RENOVATIONS

The operation is similar to that for new pools, but the first step is to inspect the pool carefully, assessing the reasons why the pool needs renovating. Pipes and fittings, particularly metallic ones, may need replacing by new plastic components. Rectify any staining by treating the water for a week or two before beginning work. Repair any leaks.

It is important to prepare an overall plan for the operation because every pool is different. Such a plan should include the use of a scratch coat to promote even curing and a good bond over the existing finish. It should also allow for a proper maintenance program during the year required for complete curing.