

DESIGNER POOL COATINGS

Application Guide

For

**Designer Beadcrete
&
Designer Pool Render**

Concrete Pool Finishes

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Designer Concrete Coatings Pty Ltd

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PRODUCT DESCRIPTION

Designer Beadcrete is a patented exposed reflective aggregate that produces a concrete pool interior finish of stunning aesthetic colour and water clarity when exposed to light.

Designer Pool Render is a high performance non reflective decorative colour exposed aggregate render purpose designed for reinforced concrete pool interiors.

Each product incorporates the latest development in polymer modified cement based pool renders and is factory batched for quality assurance and consistency. The finish is superior and significantly less coarse than traditional exposed aggregate providing lower risk hazard of skin abrasions to pool owners. Packed in 20kg plastic lined paper sacks and made in Australia, the products are user friendly, easily worked and applied when installed by competent experienced tradespersons.

Excellent compressive strength enhances durability and abrasion resistance. Mix design additives reduce porosity and permeability in the finished work for improved normal pool maintenance requirements.

Slip resistance capability in accordance with AS/NZS 4586:2000 to satisfy the requirements of HE 197:1999 – *Wet Pedulum Test : Class w (Low)*

Designer Pool Finishes are applied using similar work methods to 1mm 'pebblecrete' and may be installed where 1mm 'pebblecrete' is typically placed as a submerged pool interior finish below the pool water-line and/or may be applied where any sized pebblecrete might normally be placed submerged below the water-line and is not exposed to wetting or drying cycles or used for any other purpose for which the product is not designed nor neither intended.

PRECAUTIONS and LIMITATIONS

The products are recommended for use by professional pool interior finish tradespersons. Application should only commence after pumps are fitted, tile bands and coping laid. The pool needs to be fully operational immediately following product application and final detailing. Proper surface preparation must be achieved prior to product placement to promote durability and serviceability.

Until hard set has occurred, freshly finished surfaces must be protected from rain or damage from other sources. As is the case for all cementitious products, in windy conditions and on days of low humidity combined with high ambient temperatures, special precautions must be taken during product placement and finishing to control drying shrinkage.

All MSDS & PPE (Materials Safety Data Advice-Personal Protective Equipment) information and recommendations are the responsibility of contracted tradespersons to accept the same in the performance of the work and is a statutory requirement of WorkCover.

IMPORTANT NOTE: Designer Beadcrete™ and Designer Pool Render are specifically designed to be submerged in water to provide an acceptable probability of colourfast stability and serviceability during their design life. Whilst the structural integrity of the finished coating may or will not be compromised if exposed to normal weather conditions or wetting and drying cycles, use of water-line border tiling where weather exposure will occur is recommended to preclude colour variance from the normal influence of UV light and wetting / drying cycles. No guaranteed is or can be given for colour variance of the finished material if left unsubmerged and exposed to normal weathering or wetting or drying cycles.

PREPARATION – NEW CONCRETE POOL SHELLS

Product mix design melds to any pool shape and to the tightest curves. Correct preparation and attention to detailing the pool shell before product application is therefore an important first step to avoid disruption to decorative affect, minimise product waste and achieving good final finish consistency to the overall work.

Proper and workmanlike preparation includes-

- (i) The concrete pool shell must be cured for at least 14 days.
- (ii) The concrete pool shell must be thoroughly clean – remove all loose materials, concrete dust, dirt, oil, grease, leaves and laitance from the surface. Wash down and pump out. If acid washed, hose out thoroughly to dilute/remove any acid residue.
- (iii) The concrete pool shell must have good surface key to promote product bond and to ensure an acceptable probability of serviceability and durability of the work. Specification of a broomed or wood floated concrete pool shell finish is recommended. Smooth surfaces must be mechanically roughened to the point where a coarse key texture is achieved.
- (iv) Application of CPA 3000 Concrete Priming Agent from Designer Pool Coatings, whilst not essential if the concrete pool shell is 'new', will promote bond-strength and is recommended as a precautionary procedure at the discretion of the installer.

PREPARATION – CONCRETE POOL SHELL RENOVATIONS

Designer Beadcrete and Designer Pool Render pool finishes are designed specifically for application on masonry surfaces. **Fibreglass or paint coatings that have been applied to existing concrete pool shell surfaces must be completely removed before product installation.**

Proper and workmanlike preparation includes –

- (i) The existing masonry pool shell surface must be thoroughly clean - completely remove any fibreglass or paint coating, all loose material and surface contaminants. Where 'pebblecrete', 'marblesheen', 'quartzon™' or render has previously been used, remove all "drummy" and any deteriorated areas completely to the point where the underlying concrete shell surface is exposed. If the interior is old and generally evident that the number and condition of existing surface defects may or will disrupt the integrity of the new work then complete removal of the old interior is best practice and in accordance with proper and workmanlike preparation method.
- (ii) The existing masonry pool shell surface must be key textured to promote product bond – smooth surfaces will require mechanical roughening using a hand scutch or 'kanga' hammer or similar texturing tool.
- (iii) The existing pool tile band must be properly detailed – use an appropriate diamond bladed power tool to cut (8mm-10mm depth) horizontally along the base of the tile band. Make another cut to the same depth parallel 100mm to 200mm below the first cut. Remove the 100mm to 200mm section of old interior finish. This detailing will allow the new interior surface to finish flush with the existing tile band.
Safety First: Use appropriate protective work wear and eye wear when operating cutting equipment insitu with any concrete masonry material.

- (iv) Patch and repair areas within the existing pool interior that have been removed in accordance with the recommended method described in 'Item (i) – fill and reinstate these areas to surface level using Designer Pool Coatings CRM12 Concrete Repair mortar or similarly recognised concrete repair mortar.
- (v) CPA 3000 Concrete Priming Agent from Designer Pool Coatings MUST be applied to the entire existing pool interior after completion of all preparation works to promote new finish adhesion. Failure to observe this preparation procedure will severely limit bond-strength and void product warranty.

APPLICATION GUIDE & MIX PREPARATION FOR DESIGNER POOL COATINGS NEW POOLS AND POOL RENOVATIONS:

Designer Beadcrete and Designer Pool Render Products.

Important Precautionary Information:

- *To promote uniform aesthetic finish and reduce risk of minor variations in shading induced by prevailing weather conditions and/or drying rates and coverage between mixed batches – apply product evenly and consistently to the vertical perimeter surfaces and steps before installing pool floor. Maintain a 'wet-edge' when joining walls to floor.*
- *Maintain clean, safe work area and prevent contaminants and/or rain from entering the pool during product application and until hardset has occurred. This may require use of waterproof fabric covers and appropriate barrier material installed to pool surroundings.*
- *Use of shade covers on days of high ambient temperature and low humidity and particularly if accompanied with high windy conditions may or will assist in the control of product application and reduce risk of rapid moisture loss and drying shrinkage.*
- *DO NOT apply Designer Pool Coatings products to dry and/or improperly prepared concrete pool shells. Reduced bond strength and serviceability may or will result and void product warranty.*
- *If a waterproofing membrane is used or specified for construction purposes then installers must ensure compatibility with Designer Beadcrete and Designer Pool Render so as not to compromise bond-strength.*

IF POOL-SHELL RENOVATION -

APPLY SCRATCH COAT USING CPA 3000 CONCRETE PRIMING AGENT:

- **Dampen Only** the prepared pool shell surface first with a fine **mist spray** of clean water. If 'ponding' occurs immediately 'mop-up' and remove excess water. The surface must only be damp with no amount of excess water apparent within the pool shell. **Do Not** apply CPA 3000 Concrete Priming Agent on saturated or ponded water surfaces, product failure may or will result and void warranty.

- Scratch coat the entire pool interior using recognised broom method. The scratch coat CPA 3000 Concrete Priming Agent must be applied to achieve a coarse textured broom finish that will promote bond-strength.
- The finished scratch coat must be completely and thoroughly dry before application of the 'Initial Finish' Coat.

STEP 1: APPLY INITIAL FINISH COAT – New & Renovated Pool Shells:

- Dampen the pool shell surface with a fine 'mist-spray' of clean water. Immediately mop-up and remove excess water. Do not apply the product on saturated or ponded water surfaces, product failure may or will result and void warranty.
- Apply 'initial finish' coat using 'scratch coat' trowel technique. Trowel an initial 'thin' layer approximately 1mm to 2mm uniform thickness to promote adhesion. The 'initial finish' must achieve a compacted, closed- textured surface and should be continuously 'tamped' during trowelling so as to ensure all entrapped air is expelled from the mix to promote total adhesion between the pool coating and the pool shell surface.

STEP 2: APPLY THE FINISH COAT TO COMPLETE THE WORK:

- Install the 'finish coat' uniformly up to recommended finish thickness of 8mm to 10mm including the thickness of the 'initial finish'. A 'wet-edge' must be maintained when joining walls to the floor of the pool interior. Placement of the material should include continuous 'tamping' and at least 3 to 4 'passes' with the trowel during application to ensure proper compaction and to ensure full expulsion of any entrapped air bubbles within the material.
- The final finish must achieve a closed, fully compacted 'smooth' surface. Subject to ambient temperature and trade experience, a very light and very fine 'mist spray' of water may be required and applied to the surface before final trowelling to achieve the smooth finish expected of the completed work.
- Curing is recommended, so far as is practicable, to assist in the control of uniform 'drying' and therefore lower risk of aesthetically unacceptable colour variation in the completed work. Where curing is a recognised good construction practice for staged construction of commercial pool installations it may not apply for single stage pool construction and residential applications where the pool is immediately filled with water after completion of the work. A common curing method is use of clean fabric similar to a 'paint drop sheet' or hessian material placed over the finished work and then dampened to affect the curing process. Ensure that the pool coating surface has hardened sufficiently so that the dampened cover-material will not damage the completed work.

STEP 3: DETAILING THE POOL FINISH TO COMPLETE THE WORK:

3.1 WATER SPRAY AND ACID WASHING METHOD:

- **Important Note:** Detailing should only commence when the pool interior has achieved initial set – after the final finish has hardened sufficiently so as not to produce any unacceptable ravelling (loss of aggregate) or surface imperfections. Initial set will be influenced by ambient weather conditions and may occur as early as 2-3 hours after

completion of the work in temperate summertime climates of approximately 25°C – longer in wintertime

Step 1: Initial Water Spray

- For Designer Beadcrete & Designer Pool Render – carefully mist spray with water to remove the scum layer of cement slurry from the surface and where Designer Beadcrete is used to very lightly and evenly expose the reflective beads and decorative aggregates. **Avoid overwashing the surface too early.** If the surface has not hardened sufficiently, risk of aggregates being inappropriately washed from the surface will occur. The process requires attention to detailing, time to achieve initial set and appropriate experience to affect proper and workmanlike method.
- A slurry pump might normally be pre-set in correct position to remove slurry waste from the pool during the initial detailing process. Prevent slurry waste from entering discharge points to drains and waterways. Dispose of in accordance with EPA recommendations and/or local government stipulations.

Step 2: Acid Washing and Final Detailing

- Final detailing using a hydrochloric acid solution should only commence when the pool interior has achieved hard set – at least 24 to 48 hours after completion of the work when the pool finish has cured and hardened to the point where the normal acid washing process will not damage or weaken the surface. Hard set will be influenced by ambient weather conditions - sooner in temperate summertime climates of approximately 25°C – longer in wintertime. Acid washing should only be attempted by contractors experienced with the proper and recognised technique, who should strictly observe environmental protection measures and safe hydrochloric acid product use and work practices required by relevant regulatory authorities.
- All surfaces to be acid washed must be wholly wetted with water before application. Do not apply acid solution onto dry 'green' pool interior surfaces. Damage will result. Do not allow acid solution to react to the point where surface damage will result. Immediately following acid wash treatment of an area it must be flooded with copious amounts of water to dilute and neutralise the chemical reaction. Acid wash mix ratio might normally be diluted at the rate of 1 Part Hydrochloric Acid: 8-10 parts water.
- Acid washing should commence from the hydrostatic valve (floor drain) proceeding to completion of the vertical surfaces. When detailing the pool walls, commence acid washing from the bottom of the wall working to the top of the wall detailing an area of approximately 1m² to 2m² each time and then 'flooding' the area with clean water to neutralise the acid reaction. This process sequence minimises risk of channeling or streaking. Surface finish uniformity of the work may require at least two acid wash treatments to achieve proper and workmanlike results consistent with the aesthetic expectations of Designer Beadcrete and Designer Pool Render.
- Use a water blaster to pressure clean the surface and to result in a final finish of uniform aesthetic appearance throughout the work.
- Thoroughly rinse surfaces. Ensure pool interior is completely clean. Immediately fill pool with clean water and balance the water chemistry to the following recommended outcome: Refer to Designer Pool Coatings 'start-Up' Guide for general advice.

3.2 USE OF ACID WASHING METHOD WITHOUT INITIAL WATER SPRAY:

- If used, 'Acid Washing' must only commence when the pool interior has wholly achieved 'Hard Set' and no sooner than at least 24 to 48 hours after final finish of the work subject to ambient temperature at the time of carrying out the work.
- The method used to Acid Wash the surface is the same method referred too in 'Step 2 Acid Washing and Final Detailing' described above EXCEPT that the Water/Acid Ratio might typically be a mixed solution of 1 Part Acid to 4 Parts Clean Water. (1:4). Variations in acid manufacture concentrate strength may require adjustment of the Water/Acid Ratio to achieve the intended result of the work. Subject to these conditions, the Water/Acid Ratio may need to be modified, however, diluted solutions greater than 1 Part Acid to 1 Part Water (1:1) risks surface damage and is not recommended.

Chemistry	Recommended Level
pH	7.2 – 7.6
Total Alkalinity mg/L	80 – 120
Calcium Hardness mg/L	150 for first 12 months of pool operation.
Calcium Hardness mg/L	100 – 250 after 12 months of pool operation.
Free Chlorine	1.5 – 3.0
Stabilised Pools (Cyanuric Acid)	2.5 – 4.0

Chemistry levels should be achieved as soon as possible and thereafter checked and adjusted weekly to maintain good hygiene and swimmer comfort. **Important Note:** If 'salt-chlorinator cell' equipment is used, it is not recommended to add 'salt' to the pool water until at least 4-weeks after initial 'start-up'. Refer to Designer Concrete Coatings 'Pool Care' Guide for general advice.

PRODUCT MIXING – ESTIMATING PRODUCT COVERAGE

- Designer Pool Coatings products require a clean mixer and clean water additive only in sufficient quantity to achieve the desired consistency.
- One 20kg bag of product mixed with maximum 2.5 – 3.5 litres of clean water will cover approximately 1.25m² x 8mm thickness of finished concrete pool surface. **Note:** The recommended total minimum thickness of the product (including 'primer coat' if used) is 8mm to 10mm. Coverage of less than 8mm minimum thickness will void product warranty.
- An average sized pool with tile band (9m x 4m x 1.5m) will require 55 – 60 (20kg) bags of product to ensure sufficient and uniform coverage of 8mm recommended thickness.

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