SPECIFICATION – Designer Concrete Coatings Stain.

Description:

Designer Concrete Stain is an acid-based mineral salts colouring agent purpose designed to simulate the unique decorative feature and colours of weathered stone and an array of terrazzo and quarried tile finishes on hardened concrete surfaces. Decorative effects can be achieved using a variety of techniques including polishing, saw-cutting, pattern stamping, sand-blast texturing, overlay resurfacing and customising to produce originality in design and colour on interior floors or a truly unique look to residential driveways or entertainment areas.

The metallic salts in the acidic base react with hydrated lime within the hardened concrete to yield a myriad of truly unique variegated colour combinations that are ‘one-of-a-kind’. Designer Concrete Stain can be applied by spray-on, brush or mop method determined by design and finished surface effects required of the works. As is the case for all surface-formed decorative concrete finishes, design outcomes and durability is dependent upon workmanship competency and proper and workmanlike application practices, in-service conditions to which the surface is exposed and maintenance.

Recommended Use:

Designer Concrete Stain is effectively designed for interior floors but may also be used to create custom residential driveways, pathways and entertainment areas selected on the basis of a reasonable probability of serviceability and approved construction method.

Features and Benefits:

Designer Concrete Stain produces a unique look. Colour range integrates an interesting array of finishes. Decorator design versatility can create originality, difference and stunning appearance. Easily maintained. Cost competitive alternative to carpet or tiles or polished timber. Added value advantage of custom colour and personalised design. Can be applied to new or old concrete surfaces. Interior design and architectural appeal for commercial buildings, restaurants and retail stores. Creates a stunning feature in any home. Compatible with in-concrete radiant floor heating and concrete slab-on-ground passive solar design capabilities for energy savings in residential housing.

Storage and Shelf Life:

Store safely out of reach of children and general public access in the original fit-for-purpose resealable container and in a dry weatherproof environment. Shelf life of in excess of 12 calendar months from the date of purchase may be expected under normal climatic conditions.

Packaging:

Designer Concrete Stain is available in 4 Litre and 15 litre fit-for-purpose containers.

Materials Safe Handling Advice.

Refer to printed information on containers and read Materials Safety Data Advice (MSDS) inclusive of recommended personal protection equipment (PPE) before handling and application of Designer Concrete Stain. Published advice in accordance with the manufacturers recommended procedures is available on request from Designer Concrete Coatings Pty Ltd.

Performance Data:

Designer Concrete Stain relies on a process chain of chemical reactions. The “acid” in the stain opens the hardened concrete surface in order for the “metallic salts” to reach the free lime deposits within the concrete. Water from the stain solution fuels the reaction for a maximum period of four (4) hours to yield insoluble coloured compounds.

A variety of factors affect the outcome that include admixtures used, supplementary cementitious materials content, finishing methods, age of concrete, moisture content and prevailing conditions at the time of application. Each concrete slab accepts the stain in varying degrees of intensity and creates multi-hued colour variations that are unique and individual to each application.

The finished works must have a commercial grade protective sealant applied limited to clear polyurethanes’ (exterior applications) or water-based epoxy (interior applications) to promote serviceability and durability.

Slip Resistance:

As is the case for normal hard surface floor or paving applications, slip resistance considerations including methods to maintain the surface in a good clean workable condition must be appropriate for the specific area of application and essential where sloping gradients apply. Slip hazard reduction in accordance with guidance given in AS/NZS 3661.2:1994 may or will require slip resistant additives to the surface sealant that is particularly relevant for external pavement applications.

Abrasion Resistance:

Abrasion resistance is dependent upon sealant grade that requires at least two protective coats applied. Where existing concrete or when fresh cast-in-place concrete slabs are surface-coated with Designer Concrete Overlay Systems then a mean abrasion index of 0.2 (very high resistance) tested to AS/NZS 4456.9 – 1997 can be expected.

Concrete Design and Construction:

Concrete floor slabs or pavements on which Designer Concrete Stain is applied might normally be designed and constructed for the appropriate loadings and purpose intended. Stain application outcomes are not a factor of concrete grade (MPa) used and nor does stain application knowingly affect the structural integrity of concrete.

Estimating Product Coverage.

- **Designer Concrete Stain.**

To ensure sufficient and uniform coverage, a two-coat stain treatment is recommended. Each stain treatment is normally applied at the rate of $10m^2$/litre subject to concrete age, texture and porosity. Designer Concrete Stain is packaged ready-to-use in normal 4/litre and 15/litre fit-for-purpose containers.

- **Surface Sealants.**

To ensure a reasonable probability of serviceability and durability, a two-coat sealant treatment is recommended. Water-based epoxy sealant kits for interior floor use or polyurethane sealant kits for external paving are each normally applied at the rate of $5m^2$/litre subject to recognised application procedures, concrete age, texture and porosity. Water-based epoxy sealant is packaged in 12/litre and 30/litre kits whereas polyurethanes' are packaged in 20/litre kits.

- **Designer Concrete Overlay Systems.**

Designer Concrete Overlay Systems enhance normal concrete abrasion resistance and also significantly complement the manner in which the slab accepts the stain by producing a harder less porous surface. Designer Concrete Overlays are manufactured in spray-on form for existing concrete surfaces and dry-shake/trowel-on form for fresh cast-in-place concrete. Coverage for spray-on method is normally estimated at $10m^2$/20kg whereas dry-shake/trowel-on method is estimated at $8m^2$/20kg.

Product Application Method – In Brief:

- **Surface Preparation:**

Before stain application, the hardened concrete surface must be clean and free of contaminants. For existing slabs it is essential that any prior surface sealers or polishes be completely removed. Use a simple water test to determine concrete porosity. It is also practical to use a stain-filled eyedropper or similar device to test penetration. Where water or stain beads on the surface and/or is not absorbed by the concrete slab then treatment by shot blast or grinding or chemical method will be required to prepare the surface.

- **Stain Application:**

The slab surface must be completely and thoroughly dry before stain treatment. Custom designs or motifs or patterns are preformed onto the surface before treatment inclusive of application of Designer Concrete Overlay Systems where specified or recommended.

Stain application process is selected on the basis of specific design parameters and colour combination requirements. Subject to these variables, Designer Concrete Stain can be applied by spray-on, mop or brush method. A two-coat stain treatment is recommended except when lighter colour intensity is the desired outcome for custom designs or special decorative affects.

Stain reaction typically reduces to zero intensity within a maximum time period of four (4) hours after completion of each treatment subject to application at the recommended rate and volume of free-lime deposits contained within the concrete itself.

- **Clean Stain Residue From Surface:**

Use normal domestic Cloudy Ammonia liquid diluted at the recommended rate in clean water to neutralise acid component within the stain residue. Continue this washing process with a soft broom or mop over the entire stained area then rinse the surface with clean water to the point where stain residue is visibly removed and colour remains a “permanent” part of the concrete.

- **Detail Custom Design Work:**

Before application of the seal coat, detail all custom design work including saw-cut finishes if applicable and/or surface ‘scoring’ to complete the desired decorative outcome. Where use of grout is required, apply one coat of sealer first and when dry then grout required areas and afterwards apply a second coat of sealer.

- **Seal The Completed Work:**

Use commercial grade water-based epoxy sealer for interior floors and use commercial grade polyurethane sealants for external pavements

recommended and approved by Designer Concrete Coatings. Considerations for slip hazard reduction and particularly where sloping external pavements apply may or will require slip resistance additives to the surface sealant in accordance with the objectives of AS/NZS 3661:2:1994.
Until hard-set has occurred, freshly sealed surfaces must be protected from damage by pedestrian or vehicle traffic and disruption or deleterious affects from other sources.

Important note:

The information contained in this publication is for general guidance only and in no way replaces the advice or services of professional consultants. No liability is accepted by the publisher for its use.

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