

Colour Hardener Datasheet

October 2023

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A granolithic concrete material that is floated into fresh screed or concrete which colours, strengthens and creates durable surfaces for concrete floors. It is a special blend of cement incorporating very hard-wearing aggregates, light fast pigments and certain additives which set rock-hard and which has exceptional abrasion resistance. Some cement floor finishing experience is required for the success of this application.

Purpose

To provide a hard-wearing, attractive colouring system for the surface of concrete slabs or cement screeds, whether steel floated to a smooth finish or textured, stamped or rolled to obtain different tiled or paved effects.

Technical Data

Type	Cement based surface hardener
Colour	See website www.cemcrete.co.za for colour options
Working time after spreading over surface	30 minutes
Initial set	1 hour
Light floor traffic after application	24 hours
Compressive strength (28 days)	As per the screed applied to
Application temperature (ambient)	6 to 25°C
Slab temperature	6 to 25°C
Min application thickness	2mm
Max application thickness	3mm
Density	1.5kg/litre
Protection barriers required	Wind and sun barriers (no contact with product)

Advantages

Used in conjunction with Cemcrete's SuperScreed it can be used where there are height restrictions between 10mm and 20mm and still achieve good compressive strength and improved abrasion resistance.

Thoroughly colours concrete to a depth of about 2 - 3mm. No risk of colour being rubbed off or abraded. Colours are light fast and alkali proof. It is also good for the imprinting of special and natural patterns.

Applications

Recommended for dusting onto wet concrete or screed when laid prior to floating and / or imprinting. More than one colour can be used, depending on the desired effect.

Site Work

Storage

Unopened bags can be stored on slats in a dry shed for 6 months from date of invoice.

Surface Preparation

Apply **Colour Hardener** to fresh newly laid wet concrete or moist screed before final set has taken place, after removing all bleed water.

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Weather

Do not apply if rain or temperatures are expected to fall below 5°C within 5 hours of application. Cover during hot, dry weather to avoid premature drying which will halt the hydration process of the cement and reduce the ultimate strength. Do not allow the covers to lie on the surface as this can result in water marks staining the coloured surface.

Masking

Mask all areas where there is a risk of splashing and staining and where straight edges are required.

Mixing

No mixing required: use in dry powder form for dusting onto wet concrete or screed surface before final wood- and steel floating takes place.

Existing Surfaces

All surface beds should have a damp proof membrane.

Where **Colour Hardener** is to be applied into a screed that is to be bonded to a concrete slab, these substrates should be integrally sound (no cracking, no crumbling or friability, good compressive strength and good scuff resistance etc.) and of a quality and consistency suitable for application (good mechanical key and level). Cemcrete cannot be held liable should the **Colour Hardener** application be compromised as a result of failure or de-bonding (adhesion failure) occurring between the substrate and newly applied screed due to deficiencies or lack of surface preparation.

Application over moving joints or cracks can result in cracking and delaminating. All construction, cold joints, structural joints and / or structural cracks which may be dynamic before and / or after the **Colour Hardener** application must be extended through to the surface of the **Colour Hardener** application in the form of voided joints. All voided joints including saw cuts should be filled with suitable joint filler.

Application

A single batch should be used to prevent colour variation. Multiple batches can be used, but will require homogeneous mixing of all bags in dry powder form, prior to the commencement of the application.

Concrete base application

As soon as the concrete base has been levelled off and wood floated, wait for the excess moisture to settle. Remove all bleed water by sponge (DO NOT add additional cement / concrete to absorb this excess water). The surface should be wet, but not glistening with water.

Apply the **Colour Hardener** powder by dry shake hand method, or use a plastic container drilled with 3mm holes for even dispersion, at the rate of about 4 to 5kg/m² by dusting directly onto the surface and float to obtain an even colour. For best results apply in two operations; the first with about 40% of the **Colour Hardener** required and, once floated, the balance where necessary. Once the water from the screed has wet back into the final layer of **Colour Hardener** powder added to the surface, finish using a plastic float followed by a held steel trowel to a smooth finish. For power floating refer to your local technical consultant.

Screed base application

Screed should be moist, not wet. **TEST:** Take a fist full of material and close your fist tightly so as to "ball" it in the palm of your hand. When you open your hand the ball should hold its form. Furthermore, a light moisture residue should remain on your hand and should not be glistening wet.

The next step is to mix Cemcrete's PrimerCote mixed to a paintable slurry using a mixture consisting of 1 volume FlexBond and two volumes water. Apply the PrimerCote using a block brush and make sure that it is worked into the existing substrate. Whilst this is still wet place the screed material on top of it, then compact and level this material. The PrimerCote must not be allowed to dry before applying the screed material.

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Cut in expansion / control joints using a straight edge and jointing tool. The depth of the joint should be $\frac{2}{3}$ of the thickness of your screed. Panel sizes should be as symmetrical as is possible and should not exceed 9m². If you are cutting joints in hot weather, the concrete might crack if joints are not cut within 6-12 hours after finishing the concrete. Cut joints as soon as the concrete is hard enough that the edges abutting the cut don't chip from the saw blade. There are many other methods of creating joints such as wood, tile and polystyrene inlays and the use of form-work.

For power floating refer to your local technical consultant.

Imprinting

Dust Cemcrete's Coloured Release Agent onto smooth finish being sure to cover the whole surface to prevent the mould from sticking. More than one colour can be used for different effects. Imprint as desired. Leave to harden for approximately 72 hours, clean off excess Coloured Release Agent by sweeping with a soft broom and then wash with a high-pressure hose.

Curing

Leave to air cure for 1 day after completion. Mist spray with water twice daily for 7 days (do not allow water to pond). This hardening period is to avoid premature drying of the concrete which will reduce the final strength. Allow to cure for a minimum of 14 days before sealing.

For imprinted floors: After imprinting, leave to air cure for 3 days. Wash surface to remove excess Release Agent. Cure by wetting with clean water 3 times daily for 5 days. Leave to dry for a minimum of 7 days.

Sealing

The moisture in the floor must be less than 5% prior to sealing. Ensure that the surface is free of any form of laitance or dust etcetera before sealing with a suitable sealer fit for purpose in accordance with the manufacturer's instructions. Sealers are best applied to a cool surface in multiple thin coats until an even sheen is achieved. Allow sufficient drying time between coats (product specific in accordance with the manufacturer's instructions). Cemcrete manufacture a wide range of sealers designed for a specific purpose, dry film thickness and durability; (example: for use in wet areas etc.) Various sealers also offer varying final finishes to the surface (e.g. gloss, matt, enhance colour, etc.). Please contact your local representative for the best solution to meet your needs.

Coverage

Approximately 5m² per 20kg bag.

Floor Maintenance

Maintain **Colour Hardener** floors with Cemcrete's CreteCare Range of floor care products in accordance with the manufacturer's instructions. Sweeping, mopping and vacuuming is a necessity for all floors irrespective of the final finish. Refer to relevant CreteCare data sheets.

Packaging

Colour Hardener supplied in 20kg bags.

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Colours

Please refer to our website: www.cemcrete.co.za for the updated colour choices. It is important to remember that final colours may differ from those depicted on the colour charts as a result of factors such as site conditions and choice of sealer etc. It is important to base your final decision on samples applied by the same contractor and under the same conditions as is governed by the relevant contracting parties. We recommend two samples should be made by the contractor, one for the client and one as a retained sample.

Manufacturer's Warranty

Cemcrete warrants that the products manufactured by it shall be free from material defects and will be consistent with its normal high quality. Should any of the products be proven defective, the liability to Cemcrete shall be limited to replacement of the product ex-factory. Cemcrete makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties expressed or implied. The user shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith.

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