

A Guide to the Preparation, Placement, Finishing and Curing of Coloured Concrete



Overview

It is recommended to engage concreters and premixed or precast concrete suppliers experienced in the supply, preparation and installation of coloured concrete and whenever possible to view examples of their work.

This information is intended for use as a guide to avoiding or limiting common problems such as colour variation, efflorescence, dusting and surface cracking that spoil the appearance of coloured concrete. It is not in any way intended as a complete procedure for preparing, placing, finishing and curing concrete.

This information relates primarily to the effect on colour: the effects on concrete strength and durability should also be taken into consideration.

For further & more comprehensive data, please refer to current industry codes of practice, your premixed or precast concrete supplier or the Cement, Concrete & Aggregate Association.

Remember that concrete is a product made with naturally occurring ingredients and is subject to varying weather conditions. Some variations in colour should be expected.



Batching

Do:

- ✓ Place only the appropriate number of bags in the front of the load of the concrete truck i.e. prior to loading other materials. For 25MPa and 32MPa concrete this will consist of 1 or 2, 10kg bags per m³. If using Aquasac bags dispose of the outer paper shell because this SHOULD NOT go into the mix.
- ✓ Mixing should take place for 10 minutes at full speed to ensure that the pigment has fully dispersed throughout the concrete mix.

Note: Wet batch plants should contact their Colourmix representative for suggested batching sequences.



Preparation

Proper preparation avoids delays, wastage, segregation and colour variations.

Do:

- ✓ Avoid excessive moisture loss from the concrete slab by dampening sub-grade prior to placing.
- ✓ Use a layer of plastic membrane under the slab to reduce restraint to early age concrete movement, as friction can lead to early cracking.
- ✓ Check weather conditions for the area and be prepared for likely adverse conditions. Weather conditions play a large role in the drying and curing processes of concrete. If possible put up wind barriers and provide as much protection as possible especially for dark colours and black concrete. Remember: the darker the concrete the more heat it is likely to absorb in direct sunlight.
- ✓ If warm conditions are forecasted then try to pour in the cooler part of the day whenever possible.
- ✓ Only pour if temperature is within the guidelines specified by your concrete supplier.
- ✓ Order the same mix design when pouring several batches. Changes to the slump, cement content and sand can alter the colour.
- ✓ Have sufficient materials like evaporation retarders available for the duration of the concreting work.

Do not:

- ✗ Pour coloured concrete if rain, snow, frost or strong winds have been predicted.



Placing & Finishing

Coloured concrete is not a different 'beast' to regular grey concrete, however there are certain rules regarding placing and finishing that must be observed to avoid unsightly appearance issues.

Do:

- ✓ Keep the slump between 80-100mm unless admixtures are used to improve workability and reduce the water content to achieve higher slumps. In general, a slump in excess of 100mm is likely to result in a less vibrant colour.

Cathay Pigments (Australasia) Pty Ltd

Head Office • 103 Vanessa Street, Kingsgrove NSW 2208 • PO Box 428, Kingsgrove NSW 1480
T • (02) 9336 1000 F • (02) 9150 6677 Customer Service • 1800 633 999

www.cathaypigments.com.au