

Powdered Integral Colour



Technical Data Sheet

Permacolour Powdered Integral Colour, an iron oxide pigment, is pre-packaged in disposable bags that are normally added at the concrete batch plant. Permacolour Powdered Integral Colour disperses evenly throughout the concrete mix and **complies with ASTM C979** Pigments for Integrally Coloured Concrete.

FEATURES

- Dissolvable interior plastic bag
- UV-resistant colour
- Mixes evenly
- **Meets ASTM C979**

PRODUCT DESCRIPTION Permacolour Powdered Integral Colour is made from the finest UV-resistant pigments. The package design reduces the need to stock multiple colours to achieve different intensities of the same colour. Permacolour Powdered Integral Colour is produced to a 1% tolerance to established plant standards. The product comes in a two-part package designed to reduce leaks and spills. The exterior paper bag is removed prior to adding the inside bag to the truck. The interior, dissolvable bag and its contents are dispersed throughout the mix.

USES Permacolour Powdered Integral Colour can be used for concrete floors, driveways and paths, pre-cast and tilt-up concrete panels, concrete block plain and honed, pavers and imprinted concrete. Designing with saw cuts on flatwork can add definition and sandblasting will expose the aggregates and create the appearance of different colours. Use Texture Mats from Permacolour on flatwork to add depth and slip-resistance or combine with Permacolour Release Agent in a contrasting colour to achieve the look of other paving materials such as cobblestones, slate or inset brick. After the concrete has been allowed to cure for 28 days, Permacolour Powdered Integral Colour can be stained using Permacolour Chemical Stain.

LIMITATIONS For uniform batch-to-batch colour, the concrete mix design should be consistent. Some custom colours can only be produced with white or light cements. Timing and placement of the concrete, forming and finishing techniques, release agents, curing methods, colour of cements and aggregates and water content may contribute to slight variations

in the finished colour. Permacolour DOES NOT recommend using any colour that will exceed the saturation point of 10% of the weight of total cementitious material used in the concrete mix. An excess of 10% can reduce the overall strength of the finished product. This Technical Information Sheet is not intended to establish compatibility of Permacolour Powdered Integral Colour with other concrete admixtures unless they are tested.

COLOURS Permacolour Powdered Integral Colour is available in 32 standard colours. Custom colours and colour matching are also available.

PACKAGING Permacolour Powdered Integral Colour is pre-measured and packaged in one bag per cubic metre and smaller bags at 0.1 and 0.2 cubic metres. Depending on the desired intensity, one or more bags can be used to achieve different colours. Custom packaging is available for a nominal charge.

STORAGE Store in a cool, dry place. Shelf life is approximately 2 years.

EFFLORESCENCE Efflorescence may appear on the concrete surface as a white powder. This is caused by water evaporation. It is more noticeable on coloured concrete and can make it look faded. The residue must be removed as soon as it is practical and before it turns into calcium carbonate, which is permanent. This can be removed with a gentle cleaner such as Permacolour Efflorescence Remover and must be done prior to sealing the concrete surface. Be sure to test in a small area, according to the instructions in the Permacolour Efflorescence Remover Technical Information Sheet.

PREPARATION OF SUB-GRADE The sub-grade must be uniformly graded, compacted and moistened, but free of standing water. Avoid placing concrete over soft, frozen, or muddy spots. Follow professional standards and practices including those published by New Zealand Standards.

PREPARATION OF CONCRETE Permacolour strongly recommends representative jobsite samples or test slabs. Individuals who will be performing the work should use the specified materials as well as the finishing and curing techniques that will be used on the project. Batch to batch uniformity must be maintained to produce consistent colour.

The concrete should be designed to meet the strength and finishing requirements of the project with a minimum strength of 20mpa and a maximum slump of 100mm.

Grey cements, white cements, water-cement ratio and variations in aggregates will produce different colours. Finished texture, timing of operations, curing or forming methods, release agents, and surface treatments will each affect the finished colour. Use clean aggregates with low soluble salt content. Weigh all aggregates and cement accurately for each batch. Add Permacolour Powdered Integral Colour early in the mix, prior to the pre-wet aggregates, cement and final water, but not to an empty bowl. For batch-to-batch consistency, colour should be added at the same time in each batch. A minimum batch size of 1/3 of the mixer is the guideline for efficient mixing. **OVERLOADING** is not recommended and will reduce mixing efficiency. Begin each truckload with a thoroughly cleaned mixer.

IMPORTANT Remove the outside paper bag and add the dissolvable bag filled with Permacolour Powdered Integral Colour. This should be done prior to the pre-wet aggregates, cement and final water. Mix at a minimum of 10 minutes at HIGH SPEED before pouring. Adding water to the concrete during a pour, to allow for the placement of concrete in stages, should be kept to a minimum. **DO NOT USE CALCIUM CHLORIDE.** Calcium Chloride may cause discoloration of the concrete. Permacolour Powdered Integral Colour is compatible with plasticizers and air-entraining products designed for coloured concrete.

CONCRETE PLACEMENT The slump must be consistent from load to load. Additional water to facilitate placement must be kept to a minimum. Do not add water after a portion of the concrete load has been discharged. Do not re-temper concrete that has started to set.

FINISHING TECHNIQUES Initial floating should be discontinued as soon as the surface becomes wet. Floating may be resumed after the surface water disappears. The final finish may be completed after floating. Final brooming or trowelling should be done in the same direction. Maintain consistent finishing techniques. Avoid hard-trowelling for the most uniform colour. Over-trowelling will discolour the concrete. Additional water should not be applied to the concrete surface during finishing.

CURING The use of low-pressure (atmospheric) or high-pressure (autoclave) steam to accelerate the curing process, burlap, plastic sheeting, or water to cure the concrete is **NOT RECOMMENDED** and may produce uneven colour. A clear, non-yellowing, breathable UV-stable curing compound may be applied after 24 hours. A non-staining evaporation control or sealer may need to be applied sooner in locations where high heat and low humidity are present.

CAUTION

KEEP OUT OF REACH OF CHILDREN. Before using or handling, read the Material Safety Data Sheet and Warranty. **DO NOT TAKE INTERNALLY.** Avoid contact with eyes and skin. Do not breathe powder. Wear rubber gloves and aprons to protect skin and wear safety eye goggles. Use good hygiene when handling this product and wash and bathe after each use. Be sure to wash clothing after each use.

By New Zealand Decorative Concrete



HEAD OFFICE

42a Egmont Road,
PO Box 7022, New Plymouth
06 755 3320
info@permacolour.co.nz
FREEPHONE 0508 444 555

AUCKLAND BRANCH

24b Polaris Place
East Tamaki, Auckland
09 272 8444
auckland@permacolour.co.nz
FREEPHONE 0508 666 777

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