

Integral Color Admixture



DESCRIPTION • *PaveCrete 500* is a ready-to-use powdered admixture that gives concrete, mortar, and asphalt integral, uniform, streak-free, non-fading, and permanent color. *PaveCrete 500* may be provided in accurately pre-dosed packages ready to be added directly to the mix. *PaveCrete 500* contains non-fading iron oxide pigments that are UV resistant and stable under prolonged exposure.

USES • *PaveCrete 500* is used as an additive to concrete and other cementitious mixes to give it permanent and non-fading color. *PaveCrete 500* is suitable for coloring concrete to be used in flatwork applications as well as vertical applications such as sidewalks, hardscapes, cast in-situ walls, and pre-cast concrete. *PaveCrete 500* is also suitable for decorative concrete applications such as stamped concrete where integral color is required, and sandblasted or exposed aggregates concrete to be treated with *ExpoCrete 717 Concrete Surface Retarder*. *PaveCrete 500* may also be used in conjunction with other concrete coloring treatments such as *ChemStain Acid Based Stain* and *HydroStain Water Based Stain* to produce richly colored and attractive concrete surfaces. In addition, *PaveCrete 500* is suitable for coloring asphalt, resins, plastics, and any other materials where iron oxide-based pigments may be used.

ADVANTAGES

- ✓ Durable, UV-resistant integral color.
- ✓ Reduced color bleeding
- ✓ Exterior and Interior application.
- ✓ Ready and easy to use.
- ✓ Available in accurately pre-dosed package.
- ✓ Available in a wide range of colors.

LIMITATIONS • Avoid using any admixtures that contain Calcium Chloride. Calcium Chloride may cause salt deposits to form on the concrete surface, leading to discoloration. If the color is batched from large bags, always use a whole number of bags per truck. Do not try to batch partial bags. Do not change cement brands in the middle of a job; cements from different sources have different shades of gray, consequently changes in cement color will cause changes in the concrete color. Variations in the cement type and source, slump, color and type of aggregates, admixtures, source of sand and aggregates, curing method, and finishing technique will all cause slight variations in the final color; therefore, maintaining batch-to-batch consistency is essential to maintain color uniformity. Do not add water to the surface during finishing operations; adding water may create a blotchy surface. The quantity of colored concrete mixed should not be less than one-third of the capacity of

the mixing drum in order to insure thorough mixing. Do not pump concrete without first priming the pump with an identically colored slurry mix. Lighter shade colors require the use of white cement concrete, and some intense colors cannot be cost-effectively produced with integral coloring alone. For more intense and vibrant color, the use of *PaveCrete 200 Premium Color Hardener* is recommended. For high traffic areas requiring high abrasion resistance, the surface treatment of concrete with *PaveCrete 200 Premium Color Hardener* is highly recommended for added abrasion resistance. Color of the concrete will be enhanced by the application of a topical sealer, such as *A-Z Ultra Sealer*. Color may vary slightly depending on the type of sealer used.

DOSAGE • *PaveCrete 500* should be added at the rate of one bag per cubic meter of concrete, or as specified, when provided in custom pre-dosed packages; *PaveCrete 500* packages are factory pre-dosed and formulated according to the cement content and concrete mix design when custom produced to order (the concrete mix design should be provided at the time of order placement). Otherwise, vary the dosage as a percentage of the binders in the concrete mix (cement, slag, silica fumes...etc.) until the desired color effect is obtained; the percentage typically varies anywhere from 1% to 8%. For coloring asphalt, dose the admixture at anywhere from 3 to 8% of the total mix by weight. (Note: If the package in hand was produced for a specific concrete mix design, do not use for materials other than concrete as the mix contains other additives to help in color dispersion in concrete)

SURFACE PREPARATION • (For concrete placement) The Sub-grade should be well drained and have all adequate and uniform load-bearing characteristics. It must be moist, completely consolidated, and free of frost at the time of concreting. If necessary, the sub-grade may be dampened with water in advance of concreting, but concrete should not be placed over free standing water or muddy, frozen, or soft spots. In sand corrosive soil substrate, 1 mm polyethylene sheet is recommended under the concrete slab. Surrounding areas, landscaping, and adjacent surfaces should be protected. The work area should be roped off, nearby vehicles removed, and appropriate sections closed to traffic.

MIX DESIGN, BATCHING, AND MIXING • (For concrete coloring applications) All aggregates must be clean and free of particles that may deteriorate; the water cement ratio should not exceed 0.55 - adding extra water to increase slump may cause

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excessive bleeding and non-uniformity in color. Avoid the addition of calcium chloride or any admixtures containing calcium chloride. Additionally, all aggregates in the concrete mix must be non-reactive and free of deleterious materials. Color of cement (white or gray) used in the concrete mix depends on the finished color required.

If *PaveCrete 500* is added at the batching plant, don't add it first, it may stick to the mixer baffles and not get uniformly distributed. Turn the drum at mixing speed for at least 3 to 5 minutes before the truck leaves the yard. If dosing on-site, add the entire contents of the *PaveCrete 500* package into the ready-mix truck and allow at least 10 minutes of mixing time; add one bag of *PaveCrete 500* per cubic meter of concrete or as specified by CCC production operations.

Watch slump particularly closely during batching. Slump variations often indicate that water content has changed, perhaps because of clean out water left in the truck or changes in the aggregate surface moisture content. Changes in water content cause variations in color.

CONCRETE PLACEMENT • The concrete should be placed and consolidated so that it completely fills all space inside the forms and provides a suitable surface for finishing.

The pour for each panel must be continuous to prevent cold joints. For thin slabs on grade (below 200 mm), pencil vibrators must be used with extreme caution; over-vibrating the concrete can lead to segregation of the aggregates. Instead of a pencil vibrator, a screed vibrator is recommended if vibration of the concrete is necessary. Immediately float the surface of the concrete with wood or magnesium floats after screeding and before the appearance of bleed water to level the surface of the concrete.

For vertical works, the pencil vibrator should be inserted perpendicular to the top of the panel without touching the reinforcing steel and must not be used to move the concrete. Vibration should continue only to the extent needed to achieve proper consolidation.

Don't start finishing colored concrete until the bleed water has evaporated. Finishing too early causes discoloration and a weak non-durable surface.

FINAL FINISH • Surfaces of concrete integrally colored with *PaveCrete 500* can be finished as stamped/textured, broomed, troweled, rock-salt finished, sand blasted, exposed aggregate or any other number of other appealing textures. If power trowels are to be used take caution not to burn the surface of the concrete and cause too much color

variations of the surface.

For other materials that are integrally colored with *PaveCrete 500*, such as asphalt, finish as would normally be done if the integral color admixture was not added.

CURING • (For concrete and mortar only) Curing should be carried out immediately after completion of finishing either by conventional methods or by the application of *A-Z 100 Curing Agent*; alternatively any number of CCC sealers such as *A-Z Ultra Sealer* or *A-Z Mega Sealer* may be used as curing aids if applied after the concrete has completely set. Avoid the use of any materials that contain sodium-silicate or the use of plastic sheeting or misting techniques. When curing by water flooding, insure that the surface is evenly flooded with water in order to avoid color variations.

CONCRETE SEALING • (Decorative applications) For enhanced protection of the concrete surface, it is recommended that the surface be sealed with *A-Z Ultra Sealer*, *A-Z Mega Sealer*, or *ElastoCrete 212*. Refer to the relevant CCC technical data sheet for application instructions.

CLEANING • Clean all tools and equipment promptly with clean water.

STORAGE • Keep material covered to prevent exposure to moisture. Store in a dry area.

SAFETY PRECAUTIONS • KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY. Irritating to eyes and skin. Use in adequate ventilation and do not breathe dust. Use neoprene gloves and a dust mask when handling. FIRST AID: Eyes – Do not rub eyes, immediately flush with fresh water. Skin – Wash with soap and water. Inhalation – If experience difficulty breathing or if inhaled, move to fresh air. If symptoms persist, seek medical attention.

PACKAGING • 10-25 kg bags per mix design and customer request.

Creative Concrete Concepts

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