

COHILLS® COLOR BLENDED WITH BAYFERROX® PIGMENTS

Bayferrox® iron oxide pigments are made by Lanxess® Corporation. They are used in a wide variety of cement-based construction products such as ready mixed concrete, precast concrete products including block, pavers, roof tiles, mortars, grouts, etc. The pigment is added to the concrete mix and the particles become permanently bound with the cement paste to create durable earth tone shades.

» Product Availability

- Cohills® Color is available in 25 lb. disintegrating/repulable bags.
- Cohills packages Bayferrox pigments in smaller quantities upon request.

» Measuring Pigment

Bayferrox pigment must be measured by weight. Under no circumstances should dry pigments be added by volume. The bulk density of a particular grade may vary from shipment because of different compactions on the pallet or storage conditions. Therefore, using a coffee can for “weighing” pigment by volume may result in batch to batch color inconsistencies.

The colors demonstrated in the Cohills Colors chart are approximate and obtained by adding a specific amount of pigment per 94 lbs of cement.

A test panel should always be made to confirm the desired final color.

It is recommended a minimum of 3 yards be used for an accurate sample to be viewed when fully cured.

When determining cement content, include Portland cement, fly ash, silica fume and other cementitious materials. Do not include sand and aggregate.

Bayferrox pigment is designed for mix-in use only and should not be dusted or broadcast onto the concrete surface.

» Specifications/Compliances

All Bayferrox pigments meet ASTM C979.

ASTM C979 requires that pigments for concrete products must withstand aggressive influences of strong, alkaline cement paste. They must also be lightfast, weather stable and insoluble in water. During processing, the pigment must become firmly integrated into the concrete matrix. Inorganic pigments, especially iron oxides, do this particularly well. ASTM also limits the amount of pigment added to concrete to 10 percent by weight of the amount of cementitious materials in the mix.

» Certifications

Bayferrox has ISO certification, which is your assurance that all steps in the manufacturing of Bayferrox Pigments have been detailed.

The ISO series of standard was developed by the International Organization for Standardization (ISO) to satisfy the increasing demands of quality-conscious customers.

» Limitations

Pigment 80/490 is a high-strength tinting carbon black that does not meet ASTM C979. 80/490 is not recommended for use in air-entrained concrete. 80/490 is subject to fading when subject to weathering or repeated wetting and drying.

Non-chloride accelerators may be used with iron oxide pigments. Do not use calcium chloride set accelerators which can cause blotching and discoloration.

» Recommendations for Ready Mix

- Do not use calcium chloride with color pigments. It tends to cause discoloration/blotches.
- Any changes in raw materials-including their size, inherent color, moisture content or their amounts-can affect the final color of the project. Also, monitor water addition carefully.
- Be sure concrete loads have consistent mix times and that the delivery and discharge times are quick as possible. Over mixing (longer than 1-1/2 hours) affects color consistency.
- Air content, especially in freeze/thaw climates should be 5-7%. Air entrainment is only necessary if your climate dictates.
- Slump should be consistent and less than 5 inches (125 mm). It is recommended to use plasticizers instead of adding more water to achieve a slump of greater than 5 inches.
- Water has tremendous effect on final color. Too much water tends to lighten the color of the project- it looks "pale" or "washed out." If better flow- ability is required, use a plasticizer or water-reducing admixture instead.
- Clean mixer thoroughly at the end of the job. Begin each new color with a clean drum.
- Do not overload the mixer as this reduces mixing efficiency. By the same token, mixer should be loaded to a minimum of 40% capacity for a good color mix.

» Recommendations for Contractor

For colored and uncolored concrete, follow similar procedures used regarding base preparation, use of vapor barriers, plus placement of forms, reinforcement and joints. Here are some additional guidelines that should be observed for colored concrete.

- Be sure to use an experienced ready mix supplier who consistently follows the recommendations provided.
- Do not sprinkle dry concentrated pigment onto the surface of "green" concrete.
- Give yourself enough time and adequate labor to do the job right.
- Stop floating the concrete when surface becomes wet. Then begin troweling after bleed water evaporates. If you wait too long burns or dark spots are likely.
- Avoid adding extra water at the jobsite. Also, don't wet finishing tools or sprinkle any water onto the surface of the colored concrete.
- Final finishes, such as broom, swirl, rough or imprinting, usually result in a more uniform color appearance than smooth surfaces.
- Do not fog or cover final project with plastic sheets, this creates uneven colors.
- Efflorescence is a naturally occurring phenomenon. It is a white powdery substance that may occur on the surface of concrete and is more visible on colored concrete. For additional information refer to Bayferrox Efflorescence, A Temporary Problem brochure.

» Conditions of Use and Application Warranty

Conditions of Use and Application Warranty:

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of production evaluations) including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and application. This application specific analysis must at least include testing to determine suitability from a technical as well as health, safety and environmental standpoints. Such testing has not necessarily been done by Cohills. All information is given without warranty or guarantee. It is understood and agreed that the customer assumes and hereby expressly releases Cohills from liability in tort, contract or otherwise, incurred in connection with the use of our product, technical assistance and information. Any statement or recommendation not contained herein is unauthorized and shall not bind Cohills. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of patent.

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