

WHAT EFFECTS FINAL INTEGRAL COLOR...

- ✓ Cement Color/Brand
- ✓ Cement Content (lb/yd³)
- ✓ Slump/Water Content
- ✓ Admixtures
- ✓ Cement Substitutes
- ✓ Aggregates
- ✓ Finishing Techniques
- ✓ Curing Methods



Decorative Concrete Technology



Different Slumps



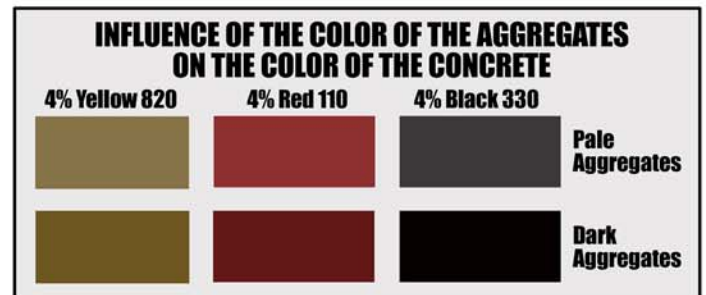
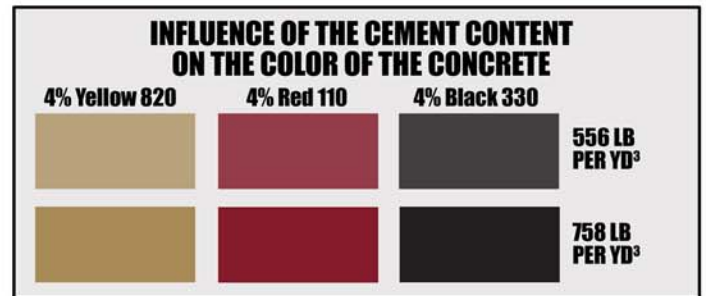
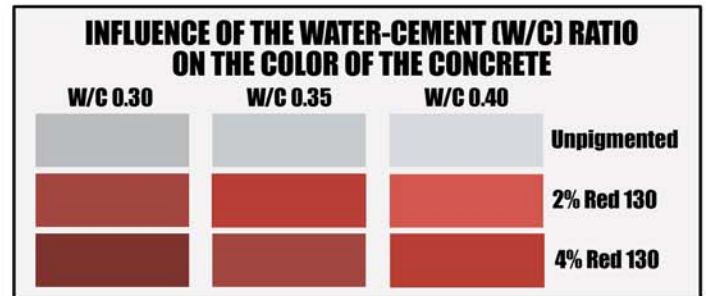
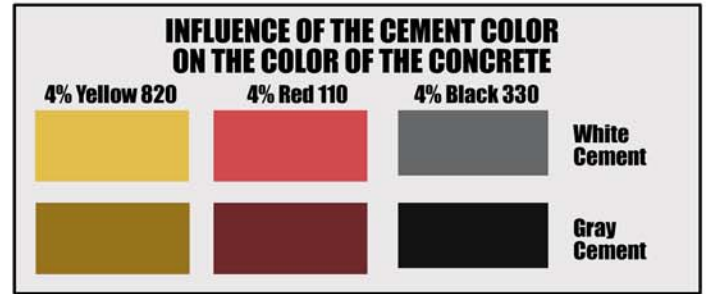
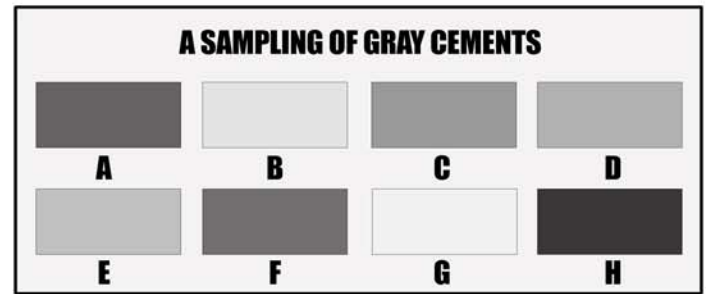
Same Color
Different Batch Plants



Efflorescence
After Acid Wash



Same Color
Different Cement





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BEST PRACTICES AND PROCEDURES

COLOR-CRETE INTEGRAL COLOR

1. PRODUCT NAME

Color-Crete™ Integral Coloring Systems

2. MANUFACTURER

Increte Systems
1611 Gunn Hwy.
Odessa, FL 33556

3. DESCRIPTION & USE

Increte Systems colors are pure synthetic iron oxide pigments, manufactured to the highest standards. They are high strength and uniform in color and exceed ASTM C-979 specifications for integrally colored concrete. Color-Crete™ colors are light-fast, lime-proof and totally weather-proof, providing a permanent color fast solution. Color-Crete™ is designed to be used in all cementitious materials, producing unlimited color effects. The primary applications are cast-in-place, slab on grade, pre-cast, tilt-up, concrete pavers and roof tiles. Color-Crete™ also can be used in concrete curbing, stucco, cast stone and plaster.

4. PACKAGING

Increte Systems offers Color-Crete™ in many forms of Packaging from Batch-Ready™ Powder Integral to Liquid Color-Crete™ available pre-packaged by the yard. Batch-Ready™ disintegrating bags and liquid Color-Crete™ contain a precise measurement of pigment and are added to Ready-Mix drums eliminating waste and human error. All Color-Crete™ loadings are a specific weight of pigment based of each sack/94pounds of cement. Please refer to the Color-Crete™ color chart for individual color loadings. Example: To produce Increte's "Pecos Beige" it requires 3 pounds/sack (94lbs cement). If you are pouring an 8 yard load at a 5 sack mix (470lbs of cement) you will need 15 pounds of Pecos Beige pigment per cubic yard or a total of 120 pounds for the 8 yard load.

5. LIMITATIONS

Due to the gray color of cement there are some colors that can only be produced using white cements. Some of these colors will not be cost effective. These colors can be achieved more cost effectively by using Increte's Color Hardener. This is a dry shake product that colors the surface of freshly placed concrete. Variations in cement color, type and brand can all produce variations in the final color. Variations in aggregates, finishes, forming materials and methods as well as curing can all affect the final color. It is very important to keep all materials, operations and techniques as consistent as possible. Calcium Chloride should not be added to any concrete containing Color-Crete™ as it can cause discoloration in the finished product.

6. JOB SITE SAMPLES

A representative job site sample should be produced for each color and/or mix design. These job site samples should be of adequate size to be representative of the actual job and produced with a minimum of 3 cubic yards or 1/3rd the capacity of the mixer. These sample(s) should be cast using the same aggregates, cement, water to cement ratio and finishing techniques to be used on the job. These samples should also be produced and approved prior to commencing the first pour on site.

7. BATCHING AND MIXING

Use a minimum cement content of 470 pounds per cubic yard. Cement substitutes, such as flyash or slag, should not be used unless Increte is consulted for suggestions. If a cement substitute is used, it must be added to all mixes on the project having the same color. Do not exceed a 5" slump. Ideally, the best mixing procedure is to batch 40%-50% of the load. With the mixer running add the color and mix for 1-2 minutes before adding the balance of materials. Once the balance of materials has been added, mix the drum at mixing speed for five minutes. Be sure to use the same mix design and slump (4") from truck to truck. (If higher slump is required it may be obtained by the use of water reducing admixtures) It is important to use the same cement as different cements can have different shades of gray that can effect the final color. Watch the slump closely as varying slumps is an indication of varying water to cement ratios and this can affect the final color. Never add Color-Crete™ to an empty drum/mixer.

8. JOB SITE PREP

Concrete should be placed over a properly placed and compacted sub-grade. This sub-grade should be free of mud, standing water and frost. If pouring over inconsistent sub-grades such as wood, plastic, asphalt or existing concrete know that this will affect the evaporation rate and cure time of the concrete which can increase the presence of efflorescence and cause color variation.

9. PLACING & FINISHING

Place concrete with a slump of 4 inches and not to exceed 5 inches. Place it as close to its final position as possible to avoid segregation. Once you have started pouring no water can be added to the truck. Do not start finishing the concrete until all bleed water has evaporated. Finishing too early can cause discoloration and a weak non-durable surface. Use the same finishing techniques across the entire job for a more uniform finish. Do not add water to the surface of the concrete during the finishing process. This may create a blotchy surface. Move edger in one direction only to produce a more uniform finish. Hard steel troweling should be minimized to avoid trowel burns. All hand finishing should be done in same direction. When placing concrete in hot/windy conditions precautions should be taken to prevent the surface from drying out too quickly, which can cause excessive shrinking and plastic cracking.

10. CURING

Until it is completely cured, the color of concrete is normally less uniform and sometimes darker than the final color. Allow 28 days for full cure. Do not place any foreign materials such as burlap, water, plastic, wood or paper on surface during the curing process. Contact with foreign materials during curing will cause discoloration. Do not water cure integrally colored concrete. During the curing process the evaporation of water can cause a white hazy film (efflorescence) on the surface of the concrete. Efflorescence is more noticeable on colored concrete giving the appearance of a chalky or faded look. This effect can be reduced or eliminated by proper curing and protecting against water penetration. Efflorescence can be removed with mild acid cleaners formulated to remove efflorescence. Follow manufactures instructions and always test a small area insure product will not discolor or etch the surface. When applying curing compounds use only those recommended and approved by Increte Systems. Increte Systems should be contacted prior to the use of other curing methods.

11. VERTICAL CONCRETE

Prior to pouring you should cast a job site sample as described in Section 5. Whenever using new forms they should be seasoned with a slurry of matching color. Please contact Increte systems for more information on matching slurries. All holes, plugs, gaps and joints should be patched or filled to prevent water leaking out in these areas. If this is not performed the water to cement ratio in the area near the leaks will change and discolor the surface. If using internal vibrators be careful not to allow the vibrator head come in contact with reinforcing steel or the face of the form as this can create a dark spot on the surface known as a vibrator burn. If using form liners, be sure to remove any cement paste from previous pours and to clean prior to each pour. When pouring integrally colored concrete always use a non-staining form release agent. To help achieve more color consistency, all forms should be stripped when concrete is of same age.

12. MAINTENANCE

Integrally colored concrete can be maintained by sweeping. Spills should be cleaned up as they occur. Dirt may be rinsed with clean water. Heavily soiled areas may be scrubbed with water and a stiff bristle brush. For stubborn stains we recommend the use of Increte's Grease-A-way. For best results use this product as directed on the label or refer to the Technical Data Sheet for Grease-A-way. For the maintenance of large areas, auto scrubbers may be used. To maintain surfaces that have been sealed with one of Increte's acrylic sealers please refer to the Tech/data sheets for the particular sealers used.

13. WARRANTY

For the complete warranty statement refer to Increte's Tech/Data sheet for Color-Crete™. Increte warrants only that its products are of consistent quality. No other oral or written statement is authorized. Any liability is limited to refund or replacement of defective product. The end user shall determine products suitability and assume all risks and liability.



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INCRETE SYSTEMS

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