

# INTEGRAL COLOR



Super Stone® Integral Color blends color into your concrete projects with ease. Integral colors are available in soft earth tones and packaged for accurate, convenient coloring. They are ideal for achieving colored concrete without variations, or when creating layered effects with powdered releases, stains, and dyes.

Super Stone® Integral Colors are beneficial because the entire batch of concrete is colored. In the event of surface abrasion, the color will not wear. Also, Super Stone® Integral Color can be used indoors when cleanup and mess are of concern using broadcast mediums. Simply color and pour. So, get the most from your concrete projects when you pre-color your concrete with Super Stone® Integral Colors.

## ADVANTAGES

- UV Stable
- Lime-Proof
- Sunfast
- Stable to Atmospheric Condition
- Weather Resistant
- Biodegradable Bags
- Permanent & Inert
- Free of Deleterious Fillers & Extenders

## APPLICATION

### **Mixing**

The drum must be cleaned. Do not use reclaimed slurry water or reclaimed aggregates. Add approximately two-thirds of the mix water and one-half of the aggregates to the drum, then add color pigment at full charging speed. Add the balance of the ingredients (water, aggregates, cement and mixtures) and mix at a full charging speed for a minimum of 10 minutes (100 revolutions), before pouring concrete (6.13-7.36 m<sup>2</sup>/L).

When using small or smooth rounded aggregates, do not add the bag to the truck. Add only the color pigment by opening the bag and pouring all color into the truck. Mixer should be loaded to a minimum of 40% capacity to ensure good color dispersion. Be sure to use the same mix design and maintain a consistent water-to-cement ratio throughout the job. The use of plasticizers, water reducers and air entraining products designed for colored concrete production are acceptable. The use of test slab to determine final color outcome is strongly recommended.

After pour has begun, adding water to the load to improve workability often causes color variation. When using pigments packaged in repulpable bags, slit the bag along the top dotted line, and completely remove and discard the top portion of the bag. Following these guidelines will destroy the paper bag and provide the best dispersion of the pigment.

### **Additives**

DO NOT use calcium chloride. This product can cause discoloration in the form of light and dark areas in the finished product. Non-chloride accelerators, including hot water, are acceptable accelerators. Check the compatibility of the mix design (plasticizers, water reducers and air entraining products) with the addition of color by pouring a test slab to confirm the preferred results.

## ***Job Preparation***

Good drainage and compacted aggregate add many benefits to decorative concrete. Pouring concrete over an inconsistent sub-grade or mix of dirt, plastic, wood, asphalt and existing concrete will not cure evenly. These types of sub-grades will force the majority of water to the surface to evaporate, causing efflorescence in those affected areas. In hot conditions, dampen the sub-grade before each pour to keep moisture in the concrete to allow better hydration. Keep the sub-grade moisture consistent throughout the day without allowing the water to pool.

Jobs requiring a vapor retarder, and job sites having high heat and low humidity conditions, are exceptions to pouring over plastic. Pouring concrete directly over plastic can lead to numerous problems including excessive bleed water, uneven drying time, shrinkage, cracking, and efflorescence. Consider adding 2"-4" of sand between plastic and concrete. If pouring directly over plastic, mix design may need to be altered. Slump and placement techniques require tighter tolerances, and finishers need to be well trained and experienced.

### ***For Vertical Applications (Cast-in-Place or Tilt-up Wall)***

All forms should be cleaned thoroughly prior to use or reuse, and applied release agents should be non-staining. For best results, forms should be free of cement residue from any prior concrete pour of a different color. Vertical wood forms should be made of medium-density overlay plywood. For color uniformity, methods and material used in preparing the forms should be consistent through the completion of the job. Lightly and uniformly sandblasting vertical surfaces is highly recommended to remove minor form marks and any colored residue resulting from water, cement and coloring agents bleeding toward the forms during concrete placement.

## ***Curing***

DO NOT fog or spray water on the surface during the initial curing period. DO NOT cover the surface with plastic. Failure to follow these guidelines can lead to uneven curing and coloration. Proper curing, along with maintaining a low slump and protecting the surface against water penetration, reduces the possibility of efflorescence.

# TECHNICAL SPECIFICATION DATA

## ***Composition and Materials***

Pigment blends are laboratory- controlled, high tinting strength pigment blends of pure red, yellow, and black iron oxides. Each of these colors is 95% to 99% minus 325 mesh particle size. All pigments comply with ASTM C979 for integrally colored concrete and are produced and tested to an established plant standard.

## ***Solar Reflectance Index (Sri)***

SRI is the measure of a surface's ability to stay cool in the sun by reflecting solar radiation and emitting thermal radiation. The SRI value is calculated according to ASTM E 1980.

# LIMITATIONS

A level of 7% (by dry weight) color based on the weight of total cementitious material used is the color saturation point. Color added in excess of 10% (by dry weight) can reduce the overall strength of the finished product. Conversely, a level of color below 1% can cause irregular coloring and general

"washed out" appearance. The suggested "optimum" range is 2% to 4% pigment loading based on total cementitious material weight.

When using 908 CARBON BLACK, a level of 2% color based on the weight of total cementitious material used is the color saturation point. Color added in excess of 2% will not provide additional benefits. The suggested "optimum" range is 1% to 2% pigment loading based on total cementitious material weight (Cement, Lime, Fly Ash, GBFS and other Pozzolan materials). Due to the particle size of Carbon, it has a tendency to dissipate out of concrete over time.

It is recommended to seal the concrete with a Super Stone Crystal Clear concrete sealer. It is important to maintain a proper sealer maintenance program to protect the surface color, as this will help slow this process down and, in some cases, prevent it. Carbon particles will decrease the amount of entrained air during the mixing process. Monitoring air content to specification will be necessary.

## SAFETY PRECAUTIONS

Use with adequate ventilation. A (NIOSH) approved respirator is recommended and use gloves to avoid repeated contact with the skin. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. In case of contact with eyes, flush eyes with water for a minimum of 10 min. In case of contact with **skin**, Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. If **ingested**, do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water and give plenty of water to drink. Get medical attention if irritation continues. If **inhaled**, remove to fresh air. Get medical attention if irritation persists or any discomfort, coughing or other symptoms continue or do not subside.

***Limited Warranty: Since no control is exercised over product use, Super Stone® only warrants that this product is of consistent quality within manufacturing tolerances. Super Stone solely and expressly warrants that this product shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Seller's and manufacturer's obligation under this warranty shall be limited to refunding the purchase price of the portion of the material proved to be defective and this shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. NO OTHER ORAL OR WRITTEN REPRESENTATION OR STATEMENT OF ANY KIND, EXPRESSED OR IMPLIED, NOW OR HEREAFTER MADE IS AUTHORIZED OR WARRANTED BY SUPER STONE, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Super Stone will not be liable for special, incidental or consequential damages, including for delays or lost profits. Any installation of Super Stone products which fails to conform with such installation information or instructions shall void this warranty. Buyer shall be solely responsible for determining the suitability of Super Stone's products for the Buyer's intended purposes.***

For Professional Use

**DANGER!** MAY CAUSE SLIGHT IRRITATION TO EYES AND SKIN. FREQUENT INHALATION OF DUST OVER A LONG PERIOD OF TIME INCREASES THE RISK OF DEVELOPING LUNG DISEASES. KEEP OUT OF THE REACH OF CHILDREN.

