

Technical Specifications

SOLOMON COLORS



ColorFlo® for ColorSelect® Liquid Dispensing Systems

LIQUID IRON OXIDE PIGMENTS

The use of iron oxide colors in concrete has grown to be the single largest application for this type of pigment. This increase in usage has created a demand for better technology and quality control throughout the concrete industry.

The introduction of iron oxide slurry, or liquid color, has been a result of technological advance. Liquid colors are high solids dispersion of iron oxide pigments in water, with total pigment levels between 60 and 70 percent.

Mixing

- Mixer should be loaded to a minimum of 40% capacity to ensure good color dispersion.
- The drum must be cleaned, and approximately two-thirds of the mix water and one-half of the aggregates needed should be added to the drum. Do not use slurry water or reclaimed aggregates.
- Be sure to use the same mix design and maintain 4" slump (10 cm), (low water-to-cement ratio). Higher slumps may be obtained by using water reducers or other similar admixtures. The use of plasticizers, water reducers and air entraining products designed for colored concrete production are acceptable. However Solomon Colors strongly recommends the use of test slabs to determine final color outcome.
- Add the Solomon Color ColorFlo liquid color to the drum and mix at full charging speed. Add the balance of the ingredients (water, aggregates, cement and admixtures) and mix at a full charging speed for 5 - 10 minutes (60-100 revolutions) before pouring concrete (6.13 - 7.36 m² / L).
- After pour has begun, adding water to the load to improve workability often causes color variation.

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 synergy 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 from being

absorbed from the concrete too fast. Keep the sub-base moisture consistent throughout the day without allowing the water to pool. Jobs requiring a vapor barrier 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-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 latents from any prior concrete pour of a different color. Also, 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.
- Solomon Colors recommends one of the following Curing Methods to be utilized:
 - 1) BRICKFORM or LEGACY branded CURE AND SEALS that meet the ASTM Standards C 309 and C 1315 for curing most new colored architectural concrete flatwork. Apply at a rate of 250-300 sq. ft per gallon (6.13-7.36m² per liter) once the slab is hard enough to be walked on without marring the surface. Do not apply these products in high heat, direct sunlight or in windy conditions. Please reference the appropriate cure and seal Technical Information Sheet for a full description of the product use, limitations and precautions. Links to these sheets and additional coloring information are available at www.solomoncolors.com.
 - 2) If you desire to only Cure the surface without a Sealer, use Lythic Day 1. Approvals include ASTM C156 Water Retention Test, reduces water vapor transmission per ASTM F1869-MVER and reduces the amount of water vapors that emit through the slab per ASTM D4263 for power troweled colored concrete. After 28 days we recommend a sealer.

- Proper curing, along with maintaining a low slump and protecting the surface against water penetration, reduces the possibility of efflorescence. If efflorescence does occur, remove efflorescence using Brickform E-Etch or Legacy Eco-Etch. Follow with a light scrubbing or The use of a low r.p.m. rotary scrubbing machine.

Solar Reflectance Index (SRI)

Please visit the Solomon Colors website for additional SRI information: www.solomoncolors.com

TECHNICAL SPECIFICATION DATA

Composition and Materials : ColorFlo® Liquid Pigments utilize pure red, yellow, and black synthetic iron oxides. SOLOMON COLORS has expanded the color range by formulating laboratory controlled high tinting strength blends. Each of these colors is 95% to 99% minus 325 mesh particle size. SOLOMON COLORS iron oxides are permanent, inert, stable to atmospheric condition, sunfast, limeproof, and free of deleterious fillers and extenders. All SOLOMON COLORS pigments comply with ASTM C979 for integrally colored concrete and are produced and tested to an established plant standard.

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.

Limit of Warranty and Liability

Solomon Colors, Inc. warrants that their product conforms to the description and standards as stated on the product packaging and specific product literature. If properly mixed and applied, Solomon Colors, Inc. warrants the color to be uniform, limeproof, and sunfast. The exclusive remedy of the user or buyer and the limit of the liability of this company shall be the purchase price paid by the user or buyer for the quantity of the SOLOMON COLORS products involved.

For more information go to:

www.solomoncolors.com
www.brickform.com and
www.legacycolor.com



Smartphone users:
Use a QR reader app to
learn more about this
product.

• CSI 3-Part Tech Spec Sheets available at
www.solomoncolors.com & www.sweets.com

See Us In DIRECTORY CD SHEETS.COM



ColorFlo® Liquid Color Card

SOLOMON COLORS



ColorFlo® for ColorSelect® Liquid Dispensing Systems



ColorFlo® Liquid Color Card



Divisions of Solomon Colors, Inc.:



Rapid Dispersion In The Mix

Color Consistency Batch to Batch within .8 Delta E

Rapid 100% Full Color Development

Inorganic Sunfast Iron Oxides

High Solids Liquid Pigment

The 'USGBC Member Logo' is a trademark owned by the U.S. Green Building Council and is used by permission. The logo signifies only that Solomon Colors, Inc. is a USGBC member; USGBC does not review, certify, or endorse the products or services offered by its members.



ColorFlo® Liquid Color Card

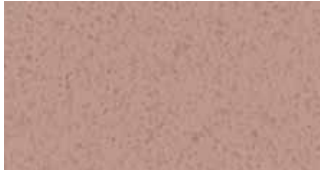
SOLOMON COLORS



Column I



413 Colony Red



417 Rose



489 Dusty Rose



288 Rosemary



750 Desert Tan SRI 45



775 Sand SRI 46



757 Buckwheat SRI 44

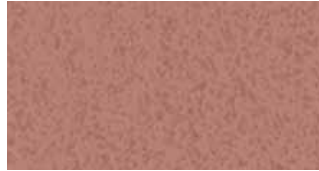


755 Trail Dust

Column II



413 Clay SRI 50



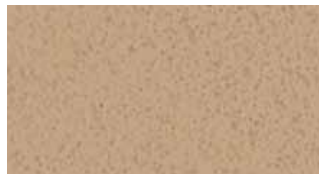
417 Brick Red SRI 40



489 Light Plum SRI 24



288 Ginger SRI 41



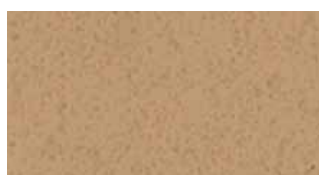
750 Salmon SRI 45



775 Cedar SRI 45



757 Pecan SRI 41



755 Driftwood SRI 40

Column III



413 Fox Red SRI 37



417 Paver Red



489 Redwood SRI 22



288 Bamboo SRI 41



750 Prairie Tan



775 Camel SRI 45



757 Antique Gold SRI 41



755 Spice SRI 41

Column IV



413 Terra Cotta SRI 48



417 Apple Red



489 Dark Redwood



288 Straw SRI 48



750 Peach



775 Sedona



757 Old Gold



755 Apricot

These color chips represent shades of Integral Colors based on medium tone gray Type I-II Portland cement with 4" slump. Use this chart as a guideline only. The colors may not exactly represent the final color. Shade variations of cement and aggregate plus variations in the volume of water, the addition of admixtures and other additives may have an effect on the design mix and final color. We recommend that a test slab be poured and approved prior to the start of the job.



Column I	Column II	Column III	Column IV
306 Canvas SRI 37	306 Toffee SRI 29	306 Burlap SRI 29	306 Cinnamon
238 Thyme SRI 44	238 Doeskin SRI 41	238 Buttercup SRI 44	238 Marigold
338 Earthen	338 Rawhide SRI 25	338 Buckskin SRI 24	338 Leather
385 Taupe SRI 29	385 Lava SRI 23	385 Buffalo SRI 20	385 Bark SRI 16
242 Sandstone SRI 36	242 Sahara SRI 46	242 Sandalwood SRI 24	242 Nutmeg
492 Mauve	492 Merlot	492 Lilac	492 Garnet
467 Ash	467 Oyster SRI 15	467 Orchid SRI 13	467 Rustique
920 Slate SRI 22	920 Smoke	920 Charcoal	920 Onyx

ColorFlo® Liquid Color Card

