

# LIQUID & GRANULAR COLORS

## TECHNICAL SPECIFICATIONS: ColorFlo® CF Liquid & SG Granular Colors

THIS COLOR CARD REPRESENTS COLORS THAT CAN BE PRODUCED BY SOLOMON COLORSELECT AND QUICKCOLOR SYSTEMS.

### 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.

### 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 admixtures) and mix at a full charging speed for a minimum of 5 minutes (60 revolutions) when using Solomon Color ColorFlo liquid color, or 10 minutes when using dry pigment powder or granules (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. Solomon Colors strongly recommends the use of test slab to determine final color outcome.
- After pour has begun, adding water to the load to improve workability often causes color variation.
- When using Solomon Colors 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.

Solomon Colors recommends the following products and curing method:

BRICKFORM CURE & SEAL products 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 (6.13-7.36 m<sup>2</sup> per liter) once the slab is hard enough to be walked on without marring the surface.

Use caution when applying these products in high heat, direct sunlight, and/or in windy conditions. Please reference the appropriate Cure & 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.brickform.com](http://www.brickform.com).

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. Follow with a light scrubbing or the use of a low r.p.m. rotary scrubbing machine.

### TECHNICAL SPECIFICATION DATA

Composition and Materials: Pigments are pure red, yellow, and black iron oxides.

Solomon Colors has expanded the color range by formulating laboratory-controlled, high tinting strength pigment 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.

### 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. Please visit the Solomon Colors website for additional SRI information: [www.solomoncolors.com](http://www.solomoncolors.com)

### 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.

### LIMIT OF WARRANTY AND LIABILITY

Solomon Colors, Inc. warrants that their products conform 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, Inc. products involved.

For more information go to: [www.solomoncolors.com](http://www.solomoncolors.com) [www.brickform.com](http://www.brickform.com)

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To improve a colored concrete project, consider using UltraFiber 500 and DAY1 Finishing Aid made by Solomon Colors. UltraFiber 500 will not ball or fuzz, and is the only fiber to accept color. DAY1 lubricates the surface and eliminates the need to add water to the surface. See [www.solomoncolors.com](http://www.solomoncolors.com) for more information.

# LIQUID & GRANULAR COLORS

## Colors for ColorSelect® & QuickColor® Systems



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Loadings in four-color groupings are represented as follows:

1% loading	2% loading
3% loading	4% loading

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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 mix design, volume of water, addition of admixtures and other additives, etc., may have an effect on the final color. Therefore, we recommend that a test slab be poured and approved prior to the start of the job.

<del>115 Limestone</del>	<del>115 Shell (IRS 56)</del>	238 Thyme (SRI 44)	238 Doeskin (SRI 41)	242 Sandstone (SRI 36)	242 Sahara (SRI 46)
<del>115 Yellow (IRS 44)</del>	115 Safety Yellow* *4% loading in white cement	238 Buttercup (SRI 44)	238 Marigold	242 Sandalwood (SRI 24)	242 Nutmeg
288 Rosemary	288 Ginger (SRI 41)	306 Canvas (SRI 37)	306 Toffee (SRI 29)	338 Earthen	338 Rawhide (SRI 25)
288 Bamboo (SRI 41)	288 Straw (SRI 48)	306 Burlap (SRI 29)	306 Cinnamon	338 Buckskin (SRI 24)	338 Leather
385 Taupe (SRI 29)	385 Lava (SRI 23)	413 Colony Red	413 Clay (SRI 50)	417 Rose	417 Brick Red (SRI 40)
385 Buffalo (SRI 20)	385 Bark (SRI 16)	413 Fox Red (SRI 37)	413 Terra Cotta (SRI 48)	417 Paver Red	417 Apple Red
467 Ash	467 Oyster (SRI 15)	489 Dusty Rose	489 Light Plum (SRI 24)	492 Mauve	492 Merlot
467 Orchid (SRI 13)	467 Rustique	489 Redwood (SRI 22)	489 Dark Redwood	492 Lilac	492 Garnet

750 Desert Tan (SRI 45)	750 Salmon (SRI 45)
750 Prairie Tan	750 Peach
755 Trail Dust	755 Driftwood (SRI 40)
755 Spice (SRI 41)	755 Apricot
775 Sand (SRI 46)	775 Cedar (SRI 45)
775 Camel (SRI 45)	775 Sedona
920 Slate (SRI 22)	920 Smoke
920 Charcoal	920 Onyx

<del>211 Tawny - 6.4% loading</del>	<del>258 Pecos Sand - 4.4% loading</del>	<del>298 Sandy Buff - 4.4% loading</del>
<del>317 Hickory - 7% loading</del>	<del>326 Tarragon - 4.4% loading</del>	<del>358 Portabella - 4.4% loading</del>
<del>376 Smokey Beige - 4.4% loading</del>	<del>380 Rust Belt - 4.4% loading</del>	<del>395 Walnut - 7% loading</del>
<del>398 Pine Cone - 4.4% loading</del>	<del>413 Unbaked Clay - 4.7% loading</del>	<del>417 Russet - 4.4% loading</del>
<del>474 Barn Red - 4.4% loading</del>		

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