

ColorFlo® Liquid Concrete Colors



SOLOMON COLORS

• Characteristics and Applications

1. PRODUCT NAME

Solomon Colors ColorFlo®
Liquid Concrete Colors

2. MANUFACTURER

Corporate Headquarters

Mailing Address:

Solomon Colors, Inc.
P.O. Box 8288
Springfield, IL 62791

UPS and Shipping Address:

4050 Color Plant Road
Springfield, IL 62702

Phone: 800-624-0261 or
217-522-3112

Fax: 217-522-3145

Western Facility

Mailing and Shipping Address:

Solomon Colors, Inc.
1251 West Durst Dr.
Rialto, CA 92376

Phone: 909-873-9444 or
866-747-2656

Fax: 909-874-9444

3. PRODUCT DESCRIPTION

Basic Use: Solomon Colors ColorFlo® Colors are pre-dispersed iron oxide pigments containing high pigment solids in an aqueous base liquid. The use of Solomon Colors ColorFlo® colors and the ColorSelect™ PC Liquid Dispensing System provides an easy handling, dust free environment for integral coloring of concrete block, concrete pavers, concrete floors, plus vertical pre-cast and poured-in-place concrete construction.

Composition and Materials:

Solomon Colors ColorFlo® is a water based liquid color containing proprietary chemicals for dispersion and suspension of the iron oxide pigments. All Solomon Colors products are thixotropic in nature, which means they remain thick when standing for an extended period. However when manually or mechanically agitated, the product thins out and become flowable for pumping or pouring into a batch. Solomon Colors ColorFlo® products are produced under closely controlled conditions to assure constant flow properties

for ease of handling without plugging of hoses and pumps. Solomon Color ColorFlo® products provide fast color dispersion and color uniformity.

Packaging: Solomon Colors ColorFlo® and HP ColorFlo® are available in 600 lb. fiber drums and 4,000 lb. V-bottom returnable totes. Each container is clearly marked with color name and number.

Color Range: Product is available in numerous standard colors as indicated in the Solomon Colors ColorFlo® brochure using 1%, 2%, 3% and 4% loadings. These colors are available through ready mix producers who utilize the Solomon Colors ColorSelect™ PC Liquid Dispensing System. By altering the amount of color used per yard many other shades can be obtained. Different shades of portland cement, cement replacements, aggregates, slump and finishing techniques create differences in the final concrete color. Solomon Colors strongly recommends pouring a test slab for approval prior to starting the job. Color matching is available for special applications.

Limitations: Solomon Colors ColorFlo® colors should be kept from freezing even though the actual pigments will remain stable in a freeze-thaw situation. Each freeze-thaw cycle does cause some separation which will require additional remixing before the liquid color can be used. Keep liquid containers covered to prevent evaporation and reseal partial drums when put into storage.

TECHNICAL DATA

- American Society for Testing & Materials (ASTM)
ASTM C33-97-Standard
Specification for Concrete
Aggregates
ASTM C94-97-Standard
Specification for Ready-Mixed
Concrete
ASTM C150-97a- Standard

Specification for Portland Cement
ASTM C979-82 (R1993)-Standard
Specification for Pigments for
Integrally Colored Concrete

Physical/Chemical Properties:

All Solomon Colors Integral colors comply with ASTM C979 for integrally colored concrete. Solomon Colors are water soluble, lime-proof, lightfast, non-bleeding, natural and synthetic iron oxides. Depending on the color, fineness ranges from 95-99% minus 325 mesh particle size.

General Formula:

Yellow: $Fe_2O_3 - H_2O$

Black: $FeO - Fe_2O_3$

Red: Fe_2O_3

Particle Shape: (Color Dependent)

Acicular, Cubical, or Spherical

Particle Size: Generally less than
44 microns

pH: 6.5-9

Specific Gravity: 1.9-2.0

Density: 15.9-18.8 lbs. per gallon

Viscosity: 5-6 Zahn Seconds

Orifice .005

INSTALLATION

- Solomon Colors ColorFlo® may be added either automatically by the use of a metering or volume measuring system or manually by weight or volume. The ColorFlo® should be agitated before use to obtain the proper viscosity. If the container is opened and only partially used, it should be resealed tightly to prevent moisture loss.

Automated Metering Pump

System: Solomon Colors ColorFlo® can be added automatically through the use of Solomon's ColorSelect™ PC Liquid Dispensing System. To assure color uniformity, the automated dispensing system should be checked by cycling the system prior to use each day. Further information on the ColorSelect™ PC Liquid Dispensing System is available upon request.

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Equipment	Products	Solomon

Manual Measuring or Weighing:

Solomon Colors ColorFlo® liquid color may also be pumped from a drum or tote, or emptied by gravity flow into a small container, which is either weighed on a scale or filled to a predetermined line on the side of the container.

Application: Solomon Colors ColorFlo® should be agitated prior to use to insure uniformity. For a zero-slump application, ColorFlo® is added just after the pre-wetted aggregate and before the cement addition. This allows the aggregate to distribute the color uniformly, which will promote an even distribution of pigment particles on the surface of the cement crystals. For ready mix applications, ColorFlo® may be added in front, during the batching or at the end of the batch cycle.

Curing: In locations where humidity is low and temperatures are high, a curing compound may need to be applied while the concrete is still damp but not wet, and hard enough to resist scuffing if a finisher is walking on the concrete while applying a curing product. In locations that have high humidity and low temperatures, a curing compound may trap moisture between the concrete and the curing product, causing the surface to become cloudy. In these conditions, letting the concrete cure naturally may be best. Be careful to keep traffic off of the decorative concrete to protect it from damage. After the concrete is 24 hours old, it is recommended that the concrete be cleaned with a pressure washer before applying any type of curing compound or sealer. When using a curing compound application should be one thin coat. If a decorative sealer is being used, apply multiple thin coats and allow drying to the touch between coats. Avoid applying any curing compound or sealer in a single heavy coat. The use of burlap, plastic sheeting or fogging with water are not recommended for curing, and may cause discoloration.

indicate the mix design along with a sample or representation of the desired color that is to be produced.

Samples: Samples of Solomon Colors standard color and specifically blended colors are available for submittals either in convenient cement blocks, and/or for constructing on the job site mock-up sections or slabs. The color block samples are mixed in the Solomon Colors Lab with either the supplied local cement and aggregates or Solomon Colors available cement and aggregates.

7. LIMIT OF WARRANTY AND LIABILITY

Solomon Colors, Inc. warrants that all 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 warrants the ColorFlo® Liquid Concrete Color to be uniform, limeproof and sunfast. The exclusive remedy of the user or buyer and the limit of liability of the company shall be the purchase price paid by the user or buyer for the quantity of the Solomon Colors product involved. Because Solomon Colors has no control over the workmanship or other materials used along with our colors, we are not responsible for the finished job or method used.

6. TECHNICAL SERVICES

The Solomon Colors' Laboratory with over 50 years experience is available to match existing colored concrete, develop special color tones or provide expert assistance for your individual color needs. Please write or call the Solomon Colors' Color Laboratory and

