



SECTION 03 05 40  
CONCRETE PIGMENTS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dry powder iron oxide pigments to be added to concrete.
- B. Liquid iron oxide pigments to be added to concrete.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 03 37 13 - Shotcrete.
- C. Section 03 41 16 - Precast Concrete Slabs.

1.3 REFERENCES

- A. ASTM C 33 - Standard Specification for Concrete Aggregates.
- B. ASTM C 94 - Standard Specification for Ready-Mixed Concrete.
- C. ASTM C 150 - Standard Specification for Portland Cement.
- D. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Samples: Submit manufacturer's samples of standard concrete colors mixed with cement specified in Section 03 30 00 - Cast-in-Place Concrete.
- D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- E. Warranty: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
  - 1. Sufficient plant facilities to provide quality and quantity of materials as required without delaying progress of the Work.
  - 2. Minimum of 10 years' experience in producing iron oxide pigments to be added to concrete.
- B. Installer Qualifications: Minimum 2 year experience installing similar products.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Construct mock-ups of concrete with pigments for approval of color by Architect.
  - 2. Construct mock-ups as specified in Section 03 30 00 - Cast-in-Place Concrete.
  - 3. Approved mock-ups shall become the standard for color, appearance and workmanship.
  - 4. Mock-ups shall remain as part of the completed Work.
  - 5. Mock-ups shall not remain as part of the completed Work. At Architect's direction, demolish mock-ups and remove debris.

#### 1.6 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials in manufacturer's original unopened containers, with labels clearly identifying product name, manufacturer, color name and number, weight, and mixing instructions.
- B. Storage:
  - 1. Store materials in clean, dry area in accordance with manufacturer's instructions.
  - 2. Keep containers sealed until ready for use.
  - 3. Liquid Pigments:
    - a. Keep from freezing.
    - b. Keep container lids on.
    - c. Reseal partial containers.
- C. Handling:
  - 1. Handle materials in accordance with manufacturer's instructions.
  - 2. Protect materials during handling and mixing to prevent damage or contamination.

#### 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

#### 1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Solomon Colors, which is located at: 4050 Color Plant Rd.; Springfield, IL 62702-1060; Toll Free Tel: 800-624-0261; Tel: 217-522-3112; Fax: 800-624-3147; Email: [request info \(sgs@solomoncolors.com\)](mailto:sgs@solomoncolors.com);

Web:<http://www.brickform.com>|<https://www.day1finishingaid.com>

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

## 2.2 CONCRETE PIGMENTS

- A. Dry Powder Iron Oxide Pigments: SGS Integral Colors for Ready Mix Concrete.
  - 1. Color:
    - a. Name: \_\_\_\_\_.
    - b. Number: \_\_\_\_\_.
  - 2. Compliance: ASTM C 979.
  - 3. Material: Natural and synthetic, milled, blended iron oxide in dry powder form.
  - 4. Produce uniform and consistent color.
  - 5. Permanent, inert, stable to atmospheric conditions, sunfast, weather resistant, alkali resistant, water insoluble, lime proof, and non-bleeding.
  - 6. Free of deleterious fillers and extenders.
  - 7. Free of admixtures.
  - 8. Particle Size: 95 to 99 percent minus 325 mesh.
- B. Liquid Iron Oxide Pigments: SGS Color-Flo Liquid Colors.
  - 1. Color:
    - a. Name: \_\_\_\_\_.
    - b. Number: \_\_\_\_\_.
  - 2. Compliance: ASTM C 979.
  - 3. Material: Pre-dispersed iron oxide pigments containing high pigment solids in aqueous base liquid.
  - 4. Produce uniform and consistent color.
  - 5. Permanent, inert, stable to atmospheric conditions, sunfast, weather resistant, alkali resistant, water insoluble, lime proof, and nonbleeding.
  - 6. Free of deleterious fillers and extenders.
  - 7. Particle Size: 95 to 99 percent minus 325 mesh.
  - 8. Specific Gravity: 1.9 to 2.0.

## 2.3 CONCRETE MATERIALS

- A. Materials:
  - 1. Ready-Mixed Concrete: ASTM C 94.
  - 2. Portland Cement: ASTM C 150. Use same source, brand, type, and color throughout project.
  - 3. Coarse and Fine Aggregates: ASTM C 33. Use same source and color throughout project.
  - 4. Admixtures: Designed for use with concrete pigments. Do not use calcium chloride or admixtures containing chlorides. Use same admixtures throughout project.
- B. Concrete Mix Design: As specified in Section 03 30 00 - Cast-in-Place Concrete, except as specified in this section.
  - 1. Color Pigment Weight: Maximum 10 percent of cement weight.
  - 2. Water to Cement Ratio: Maximum 0.50.
  - 3. Use same concrete mix design throughout project.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 APPLICATION - DRY POWDER AND LIQUID IRON OXIDE PIGMENTS

- A. Measuring, Batching, Mixing, and Delivering Concrete: As specified in Section 03 30 00 - Cast-in-Place Concrete, except as specified in this section.
  - 1. Measure, batch, mix, and deliver concrete with pigments in accordance with manufacturer's instructions.
  - 2. Ensure mixer is clean and free of washout water before loading.
  - 3. Load mixer to a minimum of 40 percent capacity.
  - 4. Do not load mixer beyond recommended capacity.
  - 5. Add concrete materials to mixer in same order for each batch.
  - 6. Do not add pigment to mixer as first concrete material.
  - 7. Maintain consistent amounts of batch water in each batch.
- B. Placing, Finishing, and Curing Concrete: As specified in Section 03 30 00 - Cast-in-Place Concrete, except as specified in this section.
  - 1. Place, finish, and cure concrete with pigments in accordance with manufacturer's instructions.
  - 2. Allow excess surface water to evaporate before finishing.
  - 3. Do not over-finish surface. Avoid burning surface.
  - 4. Do not fog with water or cover surface of colored concrete during initial curing process for a minimum of 48 hours.
- C. Add liquid pigments to concrete batch automatically by use of metering, volumetric, or weight measuring system or manually by weight or volume in accordance with manufacturer's instructions.
- D. Recycle liquid pigments while in their container before use to ensure uniformity and proper viscosity.
- E. Add liquid pigments to concrete batch after pre-wetted aggregate and before cement addition.

### 3.4 CLEANING

- A. Clean concrete of efflorescence in accordance with manufacturer's instructions.
- B. Ensure concrete has sufficiently cured before cleaning.
- C. Use concrete cleaner approved by pigment manufacturer and Architect. Do not use cleaners containing acid.
- D. Apply cleaner in accordance with cleaner manufacturer's instructions.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION