



## SECTION 035300

### POLISHED CONCRETE TOPPINGS

#### **PART 1 GENERAL**

##### 1.1 SUMMARY

- A. Section includes: Provide a complete interior, self-leveling, cementitious coating system for concrete surfaces that meet the requirements for specific use indicated in the contract documents. Include all applicable substrate testing, surface preparation, and detail work in accordance with industry standards.

##### 1.2 RELATED SECTIONS

- A. Section 03 01 00 - Maintenance of Concrete
- B. Section 03 01 40 - Maintenance of Precast Concrete
- C. Section 03 30 00 - Cast-in-Place Concrete
- D. Section 03 40 00 - Precast Concrete
- E. Section 07 91 29 - Joint Fillers
- F. Section 09 61 00 - Flooring Treatments

##### 1.3 REFERENCES

- A. ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
- B. ASTM C348 Standard Test Method for Flexural Strength of Hydraulic-Cement for Curing Concrete.
- C. ASTM E430 Standard Test Method for Measurement of Gloss of High-Gloss Surfaces by Abridged Goniophotometry.
- D. ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- E. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- F. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

##### 1.4 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Submit manufacturer's product data sheets on each product and system to be used including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements.
  - 3. Installation methods.
  - 4. Maintenance requirements.
  - 5. Safety Data Sheets.
- C. Qualification Data: Provide documentation from manufacturer that applicator is a qualified applicator and qualifies for manufacturer's warranty.
- D. Selection Samples: For each system specified, provide two sets of samples and color charts, representing manufacturer's full range of colors and patterns.

## 1.5 QUALITY ASSURANCE

- A. All materials used in the cementitious coating system shall be manufactured and provided by a single manufacturer to ensure compatibility and proper bonding.
- B. Use adequate numbers of skilled applicators that are thoroughly trained and experienced in the necessary crafts and are completely familiar with the specified requirements and methods needed for proper performance of the work of this section.
- C. Contractor shall have a minimum of three years experience installing cementitious coatings similar to that which is required for this project and who is acceptable to the manufacturer.
- D. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.
- E. Contractor must show and have QCA Qualified Contractor/Applicator paperwork from the manufacturer of the coating system, as required to obtain a long-term jobsite specific warranty.
- C. Samples:
  - 1. Cured samples for reference and approval. Cured samples should be similar to the materials that are specified. These samples should correctly depict the desired the desired color, texture, etc. for the project.
  - 2. Approved samples should be ready and available onsite, during the application process and for final review of completed work.
  - 3. Mock-up: Prior to starting the application, an on-site mock-up must be performed using the same application team, materials and equipment that will be used during the application. This mock-up should be thoroughly reviewed and if approved, left in place for the duration of the application and used for final approval.
- D. Pre-Installation Meeting: Convene a meeting before the start of surface preparation and the application of coating system. Require attendance of parties directly affecting work of this section, including: architect, contractor, applicator, and authorized representative of the coating system manufacturer and interfacing trades. Review the following:
  - 1. Drawings and specifications affecting work of this section.
  - 2. Protection of adjacent surfaces.
  - 3. Surface preparation and substrate conditions.
  - 4. Application.
  - 5. Field quality control.
  - 6. Protection of coating system.
  - 7. Repair of coating system.
  - 8. Coordination with other work.

## 1.6 DELIVERY, STORAGE & HANDLING

- A. Delivery: Materials shall be delivered to the job site in sealed, undamaged containers. Each container shall be clearly marked with manufacturer's label showing type of material, color, and lot number.
- B. Storage: Store all materials in a clean, dry place with a temperature range in accordance with manufacturer's instructions.
- C. Handling: Handle products carefully to avoid damage to the containers. Read all labels and material safety data sheets prior to use.

## 1.7 PROJECT SITE CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, ventilation, etc.) within the limits recommended by the manufacturer.
- B. All concrete should be tested for moisture before applying a seamless coating. If moisture emissions exceed 5 lbs/1000 square feet (ASTM F1869) or if the relative humidity (RH) exceeds 75% (ASTM F2170), see EC-15 Moisture Vapor Barrier product specification.

- C. Concrete must be at least 2500 psi.
- D. Concrete must be cured for a minimum of 28 days before coating is applied.
- E. Schedule coating work to avoid excessive dust and airborne contaminants. Protect work areas from excessive dust and airborne contaminants during coating application.
- F. Before any work is started, the applicator shall examine all surfaces for any deficiencies. Should any deficiencies exist, the architect, owner or general contractor shall be notified in writing and any corrections necessary shall be made.
- G. Substrate and Installed Coating Protection:
  - 1. Ensure that substrates and installed coatings are protected against oil, dirt, debris, metal, excessive water, marking paint, hydraulic or any equipment fluids, or any other agents that may negatively affect the coating.
  - 2. All trades must protect the substrate and installed coating at all times. Failure to do so can negatively affect the finished surface.
  - 3. Pipe-cutting and metal storage should not be allowed over surfaces.
  - 4. Application areas should be closed to traffic during installation process and for a period of time after application is complete, as recommended by the manufacturer.

#### 1.8 SCHEDULING AND SITE COORDINATION

- A. Coordination with all other trades should occur to ensure that other installations and construction are not interfering with the application of the cementitious topping.
- B. Ensure that adequate staffing and personnel are onsite to properly apply materials.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable manufacturer: Westcoat Specialty Coatings; 4007 Lockridge Street, San Diego, CA 92102. Telephone 800-250-4519. Website: [www.westcoat.com](http://www.westcoat.com).

### 2.2 MATERIALS

- A. As basis of design Westcoat Level-It Polish System (no substitutions accepted): Interior self-leveling flooring system that can be installed from 3/8 inch to 2 inches, then mechanically polished.

### 2.3 COMPONENTS

- A. Level-It Polish System: Polished, self-leveling overlay.
  - 1. Primer: EC-12 Epoxy Primer 120-160 square feet per gallon.
  - 2. Level-It Coat: Combine and mix one 60 pound bag of TC-27 with 4 ¼ - 4 ¾ quarts of potable water.
  - 3. Densifier: SC-21 Lithium Silicate 200-400 square feet per gallon.
  - 4. Fast Stain (Optional): SC-36 Fast Stain 200-400 square feet per gallon.
  - 5. Polish Guard: SC-24 Polish Guard 2000-2500 square feet per gallon. May be thinned with equal parts water.

### 2.4 ACCESSORIES

- A. Supplemental Materials:
  - 1. Patching materials shall be EC-72 Epoxy Patch Gel or TC-29 Concrete Patch.
  - 2. Concrete repairs can be made with TC-23 Mortar Mix as needed.

3. Integral Coloring Option: TC-40 Liquid Colorant may be added to the TC-27, when an integral color is desired.
4. TC-26 Cement may be used in lieu of TC-27 when a Gray Self Leveling Cement without aggregate look is desired.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verification of Conditions.
  1. Inspect all surfaces to receive cementitious coating. Verify that surfaces are dry, clean, and free of contaminants that would prevent flooring from properly adhering to the surface.
  2. Conduct calcium chloride testing according to ASTM F1869.
  3. Before starting work, report in writing to the authority having jurisdiction any unsatisfactory conditions.
- B. Alkalinity Testing
  1. Test concrete in accordance with ASTM F710 to measure pH.
  2. Concrete substrates should be between 8 and 14 pH.

### **3.2 SURFACE PREPARATION**

- A. Prepare surfaces using methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Create a surface profile equal to CSP 3-5 as specified by ICRI.
- C. Clean Surfaces thoroughly prior to installation.
- D. Rout and clean moving cracks and joints: fill with manufacturer's recommended filler
- E. Repair any non-moving surface deviations with manufacturer's recommended material.

### **3.3 INSTALLATION**

- A. Install coatings in accordance with manufacturer's instructions.
- B. Mix all materials in accordance with manufacturer's instructions.
- C. Use application equipment, tools, and techniques in accordance with manufacturer's instructions.
- D. Uniformly apply coatings at spread rates and in number of coats to achieve specified coverage.
- E. Adhere to all limitations, instructions, and cautions for cementitious coating as stated in the manufacturer's published literature.

### **3.4 FIELD QUALITY CONTROL**

- A. Verify coatings and other materials are as specified.
- B. Verify coverages and finish of the system as work progresses.
- C. Manufacturer's representative shall provide technical assistance and guidance for surface preparation and application of coating systems.

### **3.5 PROTECTION AND CLEAN-UP**

- A. Installation areas must be kept free from traffic and other trades during the application procedure and cure time.
- B. Protect finished surfaces of coating system from damage during construction.
- C. Touch-up, repair or replace damaged flooring system after substantial completion.
- D. Clean area and remove all debris upon completion of work. Dispose of empty containers properly according to current local, state and federal regulations.

- E. Protect cementitious coating from damage with appropriate covering, until 72 hours after completion of installation.
- F. Protect coatings as needed to prevent damage.

### 3.6 MAINTENANCE

- A. Contractor shall provide to owner, maintenance and cleaning instructions for the cementitious coating system upon completion of work. Owner is required to clean and maintain the surfaces to maintain manufacturer's warranty.

### **END OF SECTION**

*This guide specification has been prepared by Westcoat Specialty Coating Systems to assist design professionals in developing a project specific specification. This guide is a template that must be reviewed and adapted by specifiers to comply with project requirements. This guide specification is not to be copied directly into a project specification manual without review.*