SECTION 09960

CONCRETE COATINGS

** NOTE TO SPECIFIER ** Kemiko Concrete Stains; Concrete Coatings.

This section is based on the products of Kemiko Concrete Stains, which is located at:
5326 Tennyson St Denver, Colorado 80212
Tel: (303) 286-8111 Fax: (303) 286-8113
E-Mail: info@kemiko-rockymtn.com
Web: www.kemiko-rockymtn.com

Kemiko Stone Tone Stain transforms an ordinary concrete slab into a luxurious floor that resembles marble or glazed stone. When concrete is stained and scored Kemiko creates the appearance of expensive flooring at a fraction of the cost. Unlike paint, Kemiko Stone Tone Stain reacts with the minerals present in the concrete giving it the look and feel of natural stone. Each concrete slab accepts the stain in varying degrees of intensity creating stunning, multi-hued color variations and an uneven surface that looks perfectly aged..Kemiko Stone Tone Wax or Sealer can be applied to further enhance depth of color and provide surface protection. We look forward to assisting you or your client in creating beautiful, durable, and affordable stained concrete projects.

PART 1 GENERAL

1.1 SECTION INCLUDES

** NOTE TO SPECIFIER ** Delete items below not required for project.

A. Epoxy Concrete Coatings.

B. Aliphatic Polyurethane Concrete Coatings.

1.2 RELATED SECTIONS

** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.

A. Section 03300 - Cast-in-Place Concrete.

B. Section 09910 - Paints.

C. Section 09930 - Stains and Transparent Finishes.

1.3 REFERENCES

** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.

A. ASTM C 579 - Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings and Polymer Concretes.

B. ASTM D 2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).

C. ASTM D 3363 - Standard Test Method for Film Hardness by Pencil Test.

D. ASTM D 4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abrader.

E. ASTM D 4145 - Standard Test Method for Coating Flexibility of Pre-painted Sheet.

F. ASTM D 4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.

G. ASTM E 662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.

H. ASTM G 53 - Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials.

I. South Coast Air Quality Management District (SCAQMD) Rule 1113 (2008).

J. SSPC-SP1 - Solvent Cleaning.

K. SSPC-SP2 - Hand Tool Cleaning.

L. SSPC-SP3 - Power Tool Cleaning.

M. SSPC-SP6/NACE 3 - Commercial Blast Cleaning.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

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.

4. Maintenance Instructions.

** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.

C. Selection Samples: For each finish product specified, samples depicting manufacturer's full range of available colors and patterns.

D. Installer's Project References: List projects of similar type and scope completed successfully within the last three (3) years. Include project name and location, name of Architect, and type and quantity of material applied.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.

B. Installer Qualifications: All products listed in this section are to be installed by a single installer with demonstrated experience in installing products of the same type and scope as specified.

E. Pre-installation Meeting: Convene a pre-installation meeting before start of Work. Require attendance of parties directly affecting work of this section, including Contractor, Architect, and Applicator. Review surface preparation, application, protection, and coordination with adjacent surfaces.

** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

1. Mock-up areas designated by Architect.

2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.

3. Refinish mock-up area as required to produce acceptable completed project.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation. Store materials in a clean, dry area indoors in accordance with manufacturer's instructions. Keep containers sealed until ready for use.

1.7 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 absolute limits. Do not apply materials in wet weather.

1.8 WARRANTY

A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Kemiko Concrete Stains, which is located at: P. O. Box 1109 ; Leonard, TX 75452; Tel: 903-587-3708; Fax: 903-587-9038; Email: sales@kemiko.com; Web: www.kemiko.com

B. Contact Information: Kemiko, PO Box 1109, Leonard, Texas 75452. ASD. Tel: (800-875-4596). Fax: (903) 587-9038. E-Mail: sales@kemiko.com. Web: www.kemiko.com.

** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

A. Substitutions: Not permitted.

B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 CONCRETE COATINGS

** NOTE TO SPECIFIER ** Delete the next paragraph if Kemiko Epoxy Clear Sealer is not specified.

A. Kemiko Epoxy Clear Sealer, Water Extended Epoxy Coating.
   1. Dry Film Thickness: 3 to 5 mils.
   2. Solids (By Volume):
   3. Clear / Black: 43 percent.
   4. Pigmented: 42 percent.
   5. VOC: Less than 250 g/L.
   6. Abrasion Resistance, ASTM D 4060: 77 mg loss.
   7. Adhesion, ASTM D 4541: Greater than 700 pounds.
   8. Direct Impact Resistance, ASTM D 2794: 50 inches per pound.
   9. Flexibility, 180 Degree Bend, 1/4-Inch Mandrel: Pass.
   10. Compressive Strength, ASTM C 579: 13,800 psi.
   11. Hardness, Shore D: 85

** NOTE TO SPECIFIER ** Select specified Color(s) from the following 10 options. Sta-Crete 1600 is primarily a clear product, however, color options are available as listed. Delete paragraphs not applicable on this project. Coordinate locations and patterns of multiple colors with Contract Drawings.

   12. Color: Clear.
   13. Color: White.
   14. Color: Gray.
   15. Color: Tan.
   16. Color: Spanish Red.
   17. Color: Light Gray.
   18. Color: Beige.
   19. Color: Diego Blue.
   20. Color: Yellow.
   21. Color: Navajo White.

** NOTE TO SPECIFIER ** Delete the next paragraph if Kemiko Poly Clear Sealer Sealer is not specified.

B. Kemiko Poly Clear Sealer: 2-component, waterborne, high-solids, aliphatic polyurethane coating.
   1. Gloss: High gloss.
   2. Dry Film Thickness: 2.5 to 3.5 mils.
   3. Solids (By Volume) - Clear: 75 percent, Pigmented: 77 percent.
   4. VOC: 0 g/L. Meets final SCAQMD Rule 1113 (2008).
   5. Pencil Hardness, ASTM D 3363: 4H.
   6. Adhesion, ASTM D 4541: Greater than 1,000 pounds.
   7. Weathering, ASTM G 53, 1,500 Hours: 90 percent gloss retention.
   8. Impact Resistance, ASTM D 2794: Greater than 175 inches per pound.
   9. O-T Bend Adhesion, ASTM D 4145: Pass.

** NOTE TO SPECIFIER ** Select finish color. Delete one of the next two paragraphs.

   10. Color: Clear.
   11. Color: White.

** NOTE TO SPECIFIER ** Delete the next paragraph if Sta-Crete 3700 Sealer is not specified.

C. Sta-Crete 3700: High-gloss, quick-dry, amine-cured, water-extended, epoxy coating.
   1. Dry Film Thickness: 2 to 3 mils.
   2. Solids (By Volume) - Clear and Pigmented: 50 percent.
   3. VOC: 95 g/L. Meets SCAQMD Rule 1113 through 2008.
   4. Abrasion Resistance, ASTM D 4060: 45 mg loss.
   5. Adhesion, ASTM D 4541: Greater than 700 pounds.
   6. Optical Density of Smoke Generation, ASTM E 662:
      a. Flaming Mode: 8.3 minutes maximum.
      b. b.Non-Flaming Mode: 20 minutes maximum.
   7. Direct Impact Resistance, ASTM D 2794: 50 inches per pound.
   8. Flexibility, 180 Degree Bend, 1/4-Inch Mandrel: Pass.
   9. Compressive Strength, ASTM C 579: 13,800 psi.
   10. Hardness, Shore D: 85.

** NOTE TO SPECIFIER ** Select specified Color(s) from the following 10 options. Sta-Crete 3700 is primarily a clear product, however, color options are available as listed. Delete paragraphs not applicable on this project. Coordinate locations and patterns of multiple colors with Contract Drawings.

   11. Color: Clear.
   12. Color: White.
   13. Color: Gray.
   14. Color: Tan.
   15. Color: Spanish Red.
   16. Color: Light Gray.
   17. Color: Beige.
   18. Color: Diego Blue.
   19. Color: Yellow.
   20. Color: Navajo White.

2.3 PRIMER

** NOTE TO SPECIFIER ** Select Primer Requirement. Delete three of the next four paragraphs. Consult Kemiko for additional information.

A. Primer: Self-priming.
B. Primer: Kemiko Epoxy Clear Sealer.
C. Primer: Sta-Crete SS3700.
D. Primer: ZRC.

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. Protection: Protect surrounding surfaces not to receive polyurethane coating.

B. Prepare surfaces in accordance with manufacturer's instructions.

** NOTE TO SPECIFIER ** Retain the next paragraph only if concrete substrates are present.

C. Concrete:
    1. Remove dirt, dust, oil, grease, and other surface contaminants before abrasive surface preparation, acid etching, and water washing.
    2. Ensure surfaces are cured, dry, and free from alkali stain and laitance.
    3. Ensure concrete is a minimum of 28 days old.

** NOTE TO SPECIFIER ** Retain the next paragraph only if metal substrates are present.

D. Metals:
    1. Remove dirt, dust, oil, grease, and other surface contaminants before abrasive surface preparation.
    2. Prepare carbon steel in accordance with SSPC-SP6. Achieve 1-mil to 2-mil surface profile.
    3. Prepare small surfaces in accordance with SSPC-SP2 and SSPC-SP3, followed by SSPC-SP1.

** NOTE TO SPECIFIER ** Retain the next paragraph only if wood substrates are present.

E. Wood: Ensure surfaces are clean, dry, and free from mildew, organic matter, and surface contaminants.

** NOTE TO SPECIFIER ** Retain the next paragraph only if existing coatings are present.

F. Existing Coatings:
    1. Remove dirt, dust, oil, grease, chalk, loose coatings, and other deleterious matter in accordance with manufacturer's instructions.
    2. 2.Spot prime surfaces as required.

3.3 INSTALLATION

A. Apply polyurethane coating in accordance with manufacturer's instructions at locations indicated on the drawings.

B. Mix components and thin with water in accordance with manufacturer's instructions.

C. Do not use mixed materials beyond pot life limits.

D. Keep material containers closed when not in use to avoid contamination.

E. Use application equipment, tools, pressure settings, and techniques in accordance with manufacturer's instructions.

** NOTE TO SPECIFIER ** Delete the next paragraph if Sta-Crete 2700 Series is specified.

F. Apply primer in accordance with manufacturer's instructions.

G. Uniformly apply polyurethane coating at spreading rate required to achieve specified dry film thickness.

H. Apply polyurethane coating to be free of film characteristics and defects that would adversely affect performance or appearance.

3.4 PROTECTION

A. Protect surfaces from damage during construction.

B. Protect surfaces from foot traffic for a minimum of 24 hours.

END OF SECTION