SPECIAL PROVISIONS
FOR
PORTLAND CEMENT CONCRETE SANDBLAST FINISH

Des Moines County
EDP-0977(650)--7Y-29
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Effective Date
October 20, 2020

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

155043.01 DESCRIPTION.

A. Summary.
Section includes cast-in-place concrete finishing, including sandblasting, sealants, reveals, edge treatments (chamfers), and wall finishes for the following:
- Slabs-on-grade.
- Planter walls.
- Planter curbs.

B. Action Submittals.

1. Product Data: For each type of product indicated.

2. Construction Joint Layout: Indicate proposed construction joint layout and means of establishing joints (tooled vs sawn), if different than indicated on plans.

3. Location and type of construction joints are subject to approval of the Engineer.

4. Sandblasting means and methods: Indicate method of sandblasting including use of stencils or other means of protecting surrounding surfaces.

5. Sealant means and methods: Indicate method of applying sealant to sandblasted pavement and to all pavement to establish contrast. Basis of design is existing sandblast pavement at the Burlington Riverfront.

C. Informational Submittals.

1. Installer qualifications.

2. Minutes of preinstallation conference.

D. Quality Assurance.

1. Installer Qualifications.
A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

2. Source Limitations.
Obtain each type or class of sealant of the same brand from the same manufacturer's plant.

3. Mockups.
- **a.** Cast concrete slab-on-grade panels to demonstrate all joint types, surface finishes, including sandblasted, texture, tolerances, and standard of workmanship. Provide 20 foot by 20 foot (minimum) mockup. Cast concrete seatwalls to demonstrate typical joints, surface finish, integral (cast-in) skate deterrents, chamfers and radiused edges, tolerances, and standard of workmanship.
- **b.** Construct mockup using all processes and techniques intended for use on permanent work.
- **c.** Work shall not commence until a mockup of acceptable workmanship has been approved; only one mock-up shall be included for payment. Accepted mock-up provides visual standard for work, and shall remain through completion of work for use as a quality standard for finished concrete. Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in permanent work.
- **d.** Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion. Rejected mockups must be removed as directed by the Engineer.

155043.02 MATERIALS.

A. Evaporation Retarder.

1. Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

2. Products: Subject to compliance with requirements, provide one of the following:
Axim Italcementi Group, Inc.; CATEXOL CimFilm.
- **a.** BASF Construction Chemicals - Building Systems; Confilm.
- **b.** ChemMasters; SprayFilm.
- **c.** Conspec by Dayton Superior; Aquafilm.
- **d.** Dayton Superior Corporation; Sure Film (J-74).
- **e.** Edoco by Dayton Superior; BurkeFilm.
- **f.** Euclid Chemical Company (The), an RPM company; Eucobar.
- **g.** Kaufman Products, Inc.; Vapor-Aid.
- **h.** Lambert Corporation; LAMBCO Skin.
- **i.** L&M Construction Chemicals, Inc.; E-CON.
- **j.** Meadows, W. R., Inc.; EVAPRE.
- **k.** Metalcrete Industries; Waterhold.
- **l.** Nox-Crete Products Group; MONOFILM.
- **m.** Sika Corporation; SikaFilm.
- **n.** SpecChem, LLC; Spec Film.
- **o.** Symons by Dayton Superior; Finishing Aid.
- **p.** TK Products, Division of Sierra Corporation; TK-2120 TRI-FILM.
- **q.** Unitex; PRO-FILM.
- **r.** Vexcon Chemicals, Inc.; Certi-Vex Envio Set.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 ounces per square yard when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound.

1. ASTM C 309, Type 1, Class B, dissipating.

2. Products: Subject to compliance with requirements, provide one of the following:
- **a.** Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
- **b.** BASF Construction Chemicals - Building Systems; Kure 200.
- **c.** ChemMasters; Safe-Cure Clear.
- **d.** Conspec by Dayton Superior; W.B. Resin Cure.
- **e.** Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
- **f.** Edoco by Dayton Superior; Res X Cure WB.
- **g.** Euclid Chemical Company (The), an RPM company; Kurez W VOX; TAMMSCURE WB 30C.
- **h.** Kaufman Products, Inc.; Thinfilm 420.
- **i.** Lambert Corporation; AQUA KURE - CLEAR.
- **j.** L&M Construction Chemicals, Inc.; L&M Cure R.
- **k.** Meadows, W. R., Inc.; 1100-CLEAR.
- **l.** Nox-Crete Products Group; Resin Cure E.
- **m.** Right Pointe; Clear Water Resin.
- **n.** SpecChem, LLC; Spec Rez Clear.
- **o.** Symons by Dayton Superior; Resi-Chem Clear.
- **p.** TK Products, Division of Sierra Corporation; TK-2519 DC WB.
- **q.** Vexcon Chemicals, Inc.; Certi-Vex Enviocure 100.

F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound.

1. ASTM C 1315, Type 1, Class A.

2. Products: Subject to compliance with requirements, provide one of the following:
- **a.** BASF Construction Chemicals - Building Systems; Kure 1315.
- **b.** ChemMasters; Polyseal WB.
- **c.** Conspec by Dayton Superior; Sealcure 1315 WB.
- **d.** Edoco by Dayton Superior; Cureseal 1315 WB.
- **e.** Euclid Chemical Company (The), an RPM company; Super Diamond Clear VOX; LusterSeal WB 300.
- **f.** Kaufman Products, Inc.; Sure Cure 25 Emulsion.
- **g.** Lambert Corporation; UV Safe Seal.
- **h.** L&M Construction Chemicals, Inc.; Lumiseal WB Plus.
- **i.** Meadows, W. R., Inc.; Vocomp-30.
- **j.** Metalcrete Industries; Metcure 30.
- **k.** Right Pointe; Right Sheen WB30.
- **l.** Symons by Dayton Superior; Cure & Seal 31 Percent E.
- **m.** Vexcon Chemicals, Inc.; Vexcon Starseal 1315.

3. VOC Content: Curing and sealing compounds shall have a VOC content of 200 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

G. Stencil material, thickness, size, durability, and adhesive quality shall be as recommended by the stencil manufacturer to achieve the specified finish. Graphics shown on the plans will be made

available to the Contractor for the template manufacturer's use. Multiple layers of stencils may be required to achieve the graphics and finish shown on the plans.

H. Abrasive material used in the sand blasting process shall be selected based on the results of the blast finish applied to the test panel as approved by the Engineer. Typical abrasives include glass bead or walnut shells for a Brush Blast Finish, coal slag for a Light Blast Finish, and garnet, steel shot, or aluminum oxide for a Medium or Hard Blast Finish. Silica sand and other types of nonmetallic abrasive containing more than one percent free silica, by weight, will not be allowed.

155043.03 CONSTRUCTION.

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Sandblasted Finish: Where indicated, expose aggregate in exterior concrete pavements as follows:

1. Perform abrasive blasting after compressive strength of concrete exceeds 2000 psi. Coordinate with formwork removal to ensure that surfaces to be abrasive blasted are treated as same age for uniform results.

2. Surface Continuity: Perform abrasive-blast finishing in as continuous an operation as possible, maintaining continuity of finish on each surface or area of Work. Maintain required patterns or variances in depths of blast to match design reference sample or mockup.

3. Abrasive Blasting: Abrasive blast corners and edges of patterns carefully, using backup boards, to maintain uniform corner or edge line. Determine type of nozzle, nozzle pressure, and blasting techniques required to match design reference sample or mockup.

4. Depth of Cut: Use an abrasive grit of proper type and gradation to expose aggregate and surrounding matrix surfaces to match design reference sample or mockup, as follows:
- **a.** Light: Expose fine aggregate with occasional exposure of coarse aggregate and uniform color; with maximum reveal of 1/16 inch.
- **b.** Depth of cut must be deep enough to eliminate patterning and overlap marks resulting from the sandblasting process without overexposing coarse aggregate.

5. Curing and Sealing Compound: Apply uniformly to all sandblasted areas indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

C. Cleanup: Provide method of cleanup minimizing dust creation. Washing of debris may be authorized as long as a plan for collection of all materials is submitted and approved by the engineer. Debris may not be washed into permeable paver areas or flushed down storm or sanitary sewers.

D. Permeable paver areas, storm sewer, and sanitary sewers shall be protected at all times during sandblasting activities including setup and cleanup.

155043.04 METHOD OF MEASUREMENT.

Portland Cement Concrete Sandblast Finish will be measured by the Engineer to the nearest square yard.

155043.05 BASIS OF PAYMENT.

For the number of square yards of Portland Cement Concrete Sandblast Finish, the Contractor will be paid for the contract unit price per square yard. This payment shall be full compensation for setup, protection, clean up, materials, labor and tools necessary for producing the finished surface and pattern as shown. Method of protecting adjacent pavement and joints, templates, rubber mats, sandblasting materials and tools, sealants and any color differentiation method will be incidental to this bid item.