EVERLAST CONCRETE TECHNOLOGIES PROTECTION PRODUCTS
SECTION 03060
CONCRETE ADDITIVES AND ADMIXTURES

GENERAL

1.1 SECTION INCLUDES

A. Concrete additives and admixtures for the following applications:
   1. Concrete waterproofers.
   2. Concrete curing additives.
   3. Concrete surface sealers.
   4. Concrete surface membrane.

1.2 RELATED SECTIONS

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

1.3 REFERENCES

A. AASHTO T-259 - Chloride Ion Penetration Test.
B. ASTM C-114 - Standard Test Methods for Chemical Analysis of Hydraulic Cement.
C. ASTM C-157 - Standard Test Method for Length Change of Hardened Hydraulic Cement Mortar and Concrete.
D. ASTM C-309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

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.
C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, are representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

A. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish 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 work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent based materials, in accordance with requirements of local authorities having jurisdiction.

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.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: EVERLAST CONCRETE TECHNOLOGIES, Concrete Protection Products which is located at: 2050 South Blvd, #1064 Bloomfield Hills, Mi 48303, USA

Email : info@everlastconcretetech.com

B. Substitutions: Not permitted.

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

2.2 CONCRETE ADDITIVES

A. Penetrating sealer/waterproofer for Portland Cement Concrete:

1. Product: Deep Integral Sealer as manufactured by EVERLAST CONCRETE TECHNOLOGIES, Concrete Protection Products
2. DIS as an Alternate Cure Method (ASTM C-309-91): Class A compound.
3. Chloride Ion Penetration Resistance (AASHTO T-259-80): Effective chloride barrier.
4. Recommended Application Rate for Cure, Hardener and Sealer Use: Apply at the rate of 150 to 200 square feet per gallon (3.7 to 4.9 sm/l) for broom finished concrete; 300 to 350 square feet per gallon (7.4 to 8.6 sm/l) on hard or steel troweled concrete.
5. Recommended Application Rate for Sealer Use: Apply to the point of saturation at the rate of 200 square feet per gallon (4.9 sm/l) with an overlapping spray pattern of approximately 10% to 15%. Therefore, estimate volume needed at the rate of 100 square feet per gallon (2.45 sm/l).
6. Product Characteristics:
    a. Physical: Liquid (Colloidal Silicate Subsurface Membrane)
    b. Color: Cloudy White (Dries Clear)
    c. Odor: None
    d. Specific Gravity: 1 - 10
    e. pH: + 11.5
    f. Flammability: None.
    g. Toxicity: None.
    h. Paintability: Excellent.
    i. Cleanup Solvent: Water.
    j. Environmental Impact: None/Neutral.
    k. R-Factor Increase: Up to 20%.
    l. Surface Bond Quality: Excellent.
    m. User Status: Friendly.

B. Mix Water Treatment Additive:

1. Product: **CEMENT HYDRATION CATALYST** as manufactured by EVERLAST CONCRETE TECHNOLOGIES, Concrete Protection Products
2. Recommended Dosage Rate: 10 fl oz per 100 lb of Portland cement (6.52 ml per kg of Portland cement) (.652 L per 100 kg of Portland cement).
3. Concrete Shrinkage Rate (ASTM C-157): Shrinkage rate of 0.015.
4. Concrete Abrasion Resistance: Excellent.
5. **CEMENT HYDRATION CATALYST** is compatible with all admixtures.
6. Product Characteristics:
    a. Physical: Liquid.
    b. Color: Water-clear.
    c. Odor: None.
    d. pH: ±11.5
    e. Flash Point: None.
    f. Toxicity: None.
    g. Pollutants: None.
    h. Hazardous Vapors: None.
    i. Spill Cleanup: Dilute/Flush using water.
    j. Environmental Impact: None/neutral.
    k. User Status: Friendly.

2.3 WATERPROOFERS AND CURING MATERIALS

A. Permanent waterproofer with **Deep Integral Sealer Plus**:

1. Product: **Deep Integral Sealer Plus** as manufactured by EVERLAST CONCRETE TECHNOLOGIES, Concrete Protection Products.
2. Recommended Application Rate for Cure, Hardener and Sealer Use: Apply at the rate of 150 to 200 square feet per gallon (3.7 to 4.9 sm/l) for broom finished concrete; 300 to 350 square feet per gallon (7.4 to 8.6 sm/l) on hard or steel troweled concrete.
3. Recommended Application Rate for Sealer Use: Apply to the point of saturation at the rate of 200 square feet per gallon (4.9 sm/l) with an overlapping spray pattern of approximately 10% to 15%. Therefore, estimate volume needed at the rate of 100 square feet per gallon (2.45 sm/l).
4. Product Characteristics:
    a. Physical: Liquid (Colloidal Silicate Subsurface Membrane plus Surface Repellent Treatment).
    b. Color: Cloudy-white (Dries clear).
    c. Odor: None.
    d. Specific Gravity: 1.10.
    e. pH: +11.5
    f. Flash Point: None.
    g. Flammability: None.
    h. Toxicity: None.
    I. Paintability: Excellent.
    j. Cleanup Solvent: Water.
    k. Environmental Impact: None/Neutral.
    l. Hazardous Vapors: None.
    m. Freeze Temperature: 32 degrees F (0 degrees C).
    n. U.V. Resistance: Excellent.
    o. Surface Bond Quality: Excellent.
    p. R-Factor Increase: Up to 20%.
    Q. Spill Cleanup: Dilute/flush with water.

r. Chloride Screen Ability: Excellent.
s. User Status: Friendly.
t. VOC/VOS Compliant: Yes.

2.4 SURFACE SEALERS AND MEMBRANES

A. Water Resistant Sealer:

1. Product: **Multipurpose Coating** as manufactured by EVERLAST CONCRETE TECHNOLOGIES, Concrete Protection Products.
2. **Multipurpose Coating** Coverage Rate:
   a. Note: Start with a clean, bare surface. Remove all dirt and buildup.
   b. Using a paint roller, apply evenly at the rate of about 300 square feet per gallon (7.4 sm/l), adjust depending on porosity.
   c. Allow at least 24 hours to dry thoroughly. Allow more drying time in high traffic areas.
3. Sand Consolidator Coverage Rate:
   a. Use low pressure non-atomizing sprayer.
   b. Apply uniformly over pavers and sand at a rate of 150 square feet per gallon (3.7 sm/l).
   c. Use a small squeegee to wipe excess product from paver tops into sand joints.
   d. Do not allow surplus product to air dry on pavers.
4. Crack Repair Coverage Rate:
   a. Fill cracks with a dry fine sand and cement mixture.
   b. Using a pointed squeeze bottle, cover with a bead of product.
   c. Allow to completely set (at least 24 hours) before installing a film coat of the product over the surface.
5. Physical Characteristics:
   a. Physical: Liquid.
   b. Product Type: acrylate, aqueous dispersion, with proprietary additives
   c. pH Range: 7-8.
   d. VOC/VOS Content: Insignificant trace VOC.
   e. Color: Milky white (unpigmented).
   f. Specific Gravity: 1.04.
   g. Elongation: 3 mils (.08 mm) 100%, 10 mils (.25 mm) 400-500%.
   h. Flexibility: Excellent.
   i. Resistance to Aging: Excellent.
   j. Flash Point: N/A.
   k. Decomposition Products: CO, CO2, Nox.
   l. Solids Content %: 25 to 30.
   m. Freeze Point: 32 degrees F (0 degrees C).
   n. Freeze Harm: Possible, but not likely.
   o. Storage Temperature: 50 to 85 degrees F (10 to 30 degrees C).
   p. Dry Color: Clear, transparent.
   q. Recommended Coverage: 75-300 sf/gal (1.8 to 7.4 sm/l), depending on use.

B. Water Repellant Membrane:

1. Product: S**urface Protection Treatment** as manufactured by EVERLAST CONCRETE TECHNOLOGIES, Concrete Protection Products.
2. Coverage Rate Chart: (Estimated Square Feet Per Gallon).
   a. Adobe: 250 to 350 (6.1 to 8.6 sm/l).
   b. Brick: 300 to 550 (7.4 to 13.5 sm/l).
   c. Clay Tile: 400 to 750 (9.8 to 18.4 sm/l).
   d. Concrete: 200 to 300 (4.9 to 7.4 sm/l).
   e. Grout: 300 to 750 (7.4 to 18.4 sm/l).

f. Limestone: 200 to 300 (4.9 to 7.4 sm/l).
g. Man Made Stone: 250 to 450 (6.1 to 11 sm/l).
h. Pavers: 300 to 500 (7.4 to 12.3 sm/l).
i. Plaster: 350 to 550 (8.6 to 13.5 sm/l).
j. Slate: 400 to 500 (9.8 to 12.3 sm/l).
k. Stucco: 300 to 750 (7.4 to 18.4 sm/l).

3. Physical Characteristics:
a. Physical: Liquid (Aqueous Siliconate).
b. Color: Clear.
c. Odor: None.
d. Specific Gravity: 1.02.
e. Boiling Point: 230 degrees F (106 degrees C).
f. pH: 11.
g. Solvent: Water.
h. Shelf Life: One year.
i. Flash Point: None.
j. Flammability: None.
k. Environmentally: Safe.
l. User: Friendly.
m. Hazardous Vapors: None.
n. Disposal: Non-Hazardous Material.
o. Toxicity: None.
p. Freeze Harm: Possible.
q. Freeze Temperature: 32 degrees F (0 degrees C).
r. Clean Equipment: Soap and Water.
s. U.V. Resistance: Excellent.
t. Paintability: Excellent.
u. VOC/VOS Compliant: Yes.

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 INSTALLATION

A. Install in accordance with manufacturer's instructions.
B. In hot climates, mist-wet the surface with water and remove any puddles prior to application.
C. Concrete Additives Installation:

1. Do not allow product to contact glass, flush surface with water before product is allowed to dry, since it could etch. It dulls the shine on shiny aluminum, but does not affect the integrity of the finish. Product is difficult to remove from other surfaces once it dries. Cover surrounding surfaces Or rinse immediately if sprayed.

2. Application of additive shall be accomplished at the concrete batch plant to match approved batch mix and testing and to achieve desired slump at designed water-cement ratios.
3. There shall be at least 110 revolutions on the transit mixer before concrete is placed at pour site.

D. Waterproofers and Curing Materials Installation:

1. Do not allow product to contact glass, flush surface with water before product is allowed to dry, since it could etch. It dulls the shine on shiny aluminum, but does not affect the integrity of the finish. Product is difficult to remove from other surfaces once it dries. Cover surrounding surfaces or rinse immediately if sprayed.
2. Product shall be used only on green or recently poured, clean concrete to avoid the highlighting and sealing in of visible stains

E. Surface Sealers Installation:

1. Protect areas not intended for coverage as product is very difficult to remove later.
2. Cleaner/sealer will damage or kill vegetation and will stain or etch glass, plastic and aluminum. If contact should occur, wash immediately with water.
3. Do not apply when ambient temperature drops below 50 degrees F (10 degrees C).
4. Do not apply when rain is expected during next 24 hours.
5. Do not apply on extremely hot surfaces. On very hot days, apply in early morning or at night.
6. White precipitate may form if product is over applied. Surface should be washed and may need scrubbing if this occurs.

F. Surface Membranes:

1. Surface shall be free of all residues. Use a shot blasting machine to mechanically abrade the surface to remove contaminates that may compromise the bond.
2. Complete the floor preparations and application of Densifier.
3. Verify that calcium chloride test readings are 5 pounds or less before application of topping.
4. LAM shall not be applied to substrates whose temperature is extremely hot (more than 90 degrees F (32 degrees C), or when ambient temperature is 45 degrees F (7 degrees C) or below.

3.4 PROTECTION

A. Protect installed products until completion of project.
B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION