

SECTION 07 XX XX

DAMPPROOFING AND WATERPROOFING

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Work includes labor, materials, appliances, tools, equipment, facilities, transportation, and services necessary for and incidental to performing operations in connection with furnishing, delivery, and installation of the work of this Section, complete as shown on the drawings and/or specified herein.
- B. Zero VOC Penetrating Liquid Treatment Clear, chemically reactive, waterborne solution of inorganic lithium silicate materials and proprietary components; odorless; that penetrates, waterproofs, hardens, and densifies both new and old concrete, masonry, and stone surfaces.
- C. Product must not require free calcium or other hydrates for reactivity.
- D. Product to be capable of installation within five days of concrete placement when properly cured and must not generate any waste or byproduct for disposal.
- E. Single source product selection for suspended, on or below-grade concrete, masonry, and stone surfaces.
- F. Repairs and preparation for horizontal and vertical surfaces.

1.02 RELATED SECTIONS

- A. Division 03: Cast-in-Place Concrete
- B. Division 03: Curing Agent, Water Cure Equivalent Type
- C. Division 03: Polished Concrete Systems
- D. Division 09: Sealer/Densifier/Dustproofing/Hardener

1.03 REFERENCES

- A. American Concrete Institute (ACI)
 - 1. 302.1R-15 Guide for Concrete Floor Slab Construction
- B. Health Product Declaration Collaborative (HPD)
 - 1. HPD v.2.2
- C. USGBC LEED 4
 - 1. EQ Credit 1.0, 4.1 and 4.3
 - 2. EQ Credit 10, 3.1
 - 3, MR Credit 5.1 and 5.2

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E. ASTM International (ASTM)

1. ASTM C241 - Standard Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic
2. ASTM C805 - Standard Test Method for Rebound Number of Hardened Concrete
3. ASTM C944 - Standard Test Method for Abrasion Resistance of Concrete or Mortar Surfaces by the Rotating-Cutter Method.
4. ASTM C1202-93 – Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration

1.04 PRODUCT DESCRIPTION

A. Primary component is a water-based, pre-catalyzed lithium quartz treatment that contains no organic resins or compounds.

1. Shall provide a permanent protective barrier to waterproof concrete, masonry, and stone.
2. Shall reduce or eliminate efflorescence.
3. Shall not leave a film or coating on the substrate surface. Will not interfere with the bonding or performance line markings or paints.
4. Shall be compatible with all bond-breakers, patching compounds, leveling products, and joint sealants.
5. Shall be UL 2818 Gold - GREENGUARD Certified.
6. Shall be compatible with silicate hardeners, stains or dyes and polish systems.

B. Air Quality Compliance:

1. Shall be listed as Super-Compliant by the South Coast Air Quality Management District.
2. Shall exceed SCAQMD Rule 1113

C. Fire / Safety / Habitability Criteria:

1. Flammability: Provide water-based materials.
2. Hazard Rating: Materials used shall comply with local and federal VOC criteria.

D. Warranty:

1. Provide system warranty for a term of XX years based on application.

1.05 SUBMITTALS

A. The specified product shall be HLQ-125 as manufactured by: SINAK Corporation 4901 Morena Blvd, Ste 601, San Diego, CA 92117, Phone: (800) 523-3147.

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B. There is no known equal to HLQ-125. Architect and/or owner prior to bid time must approve alternates in writing. Bids received that include alternate materials that have not been approved in such fashion will be rejected as non-responsive to the bid documents.

C. Product Data:

1. Submit manufacturer's printed descriptions of materials, components and systems; performance criteria; use limitations; preparation instructions and recommendations; storage and handling requirements and recommendations; and installation methods.
2. Submit all appropriate HPD or SDS sheets.
3. Shall provide certified independent laboratory test reports verifying all claimed ASTM and related test results.

D. Shop Drawings:

1. Submit shop drawings indicating system application schedule.
2. (optional) Photo documentation of application.

C. Quality Assurance Submittals: Submit the following:

1. Qualifications: Submit manufacturer and installer's qualifications specified herein.
2. Manufacturer's Instructions: Manufacturer's installation procedure.

1.06 QUALITY ASSURANCE

A. Single Source Control: Obtain concrete curing agents, finishing aids, sealers, waterproofing and hardeners from a single source.

B. Manufacturer Qualifications: Manufacturer shall provide the following:

1. Manufacturer shall furnish written proof of operations as a formulator of specialty concrete treatments for at least 20 years.
2. Product/Specification basis of design shall be manufactured by SINAK Corporation and distributed exclusively through authorized agents to ensure product quality and consistency.
3. Manufacturer shall provide field service representation or real time video support inclusive with no additional expense to the client
4. Manufacturer shall provide documentation of completed successful projects performed during this period.
5. EPA – US Environmental Protection Agency: Product as supplied must be certified contain no VOC's.
6. Product manufacturer shall maintain product liability insurance of not less than 5 million dollars per occurrence.

C. General Contractor is to coordinate slab installation and finish to be compatible with the specified flooring products or finishes in Division 9 where applicable.

1.7 PRE-INSTALLATION MEETING

- A. A pre-installation meeting shall be held to verify project requirements, substrate conditions, manufacturer's installation instructions and subsequent flooring requirements are verified.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Ordering: Shall comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels attached.
- C. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
 - 1. Store materials in a dry, secure area.
 - 2. Maintain minimum temperature of 40° F and maximum temperature of 85° F.

PART 2 – PRODUCTS

2.1 CONCRETE SEALER/WATERPROOFING

- A. Contract documents are based on products manufactured by SINAK Corporation, San Diego, CA, (800-523-3147). Products by other manufacturers that meet or exceed the following requirements and are approved equivalent by the Architect and Structural Engineer, may be provided.
 - a. HLQ-125: for interior or exterior hard troweled and colored concrete surfaces, masonry, and stone to provide permanent waterproofing, and increase abrasion resistance. Use also for reconsolidating of dusting or friable surfaces.

NOTE: The follow are acceptable products for use in conjunction with HLQ-125 on new concrete placements.

- b. Finishing Aid: Only SINAK Finishing Aid for use during placement and finishing operations is allowed. Addition of water on the surface for finishing is not allowed.
- c. LithiumCure 1000: for exterior vertical and horizontal surfaces.
- d. LithiumCure 2000: for interior surfaces with a hard trowel finish or surfaces to be sealed/densified or polished concrete systems.

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2.2 SOURCE QUALITY

- A. Source Quality: Obtain curing, finishing, sealing, dustproofing, and hardening products from a single source manufacturer.
- B. Product performance requirements shall conform to requirements specified herein. Certified independent laboratory test certificates are required to verify test data.

2.3 MATERIALS

- A. SINAK HLQ-125 is a permanent penetrating sealer formulated to waterproof, protect, and preserve concrete, masonry, and stone. Surfaces treated with HLQ-125 are protected against water penetration, chloride intrusion, efflorescence, algae growth and staining from food, oil and chemicals. It is a non-toxic material containing zero VOC's. Product performance characteristics:
 - 1. ASTM C241: 300 percent improvement in abrasion resistance.
 - 2. ASTM C805: Improved rebound number of 10 percent.
 - 3. ASTM C1202: 25% improvement over water cured samples.
 - 4. ASTM D3359: No failure of adhesion.
 - 5. AASHTO T 161 Freeze/Thaw Durability: Passed
 - 6. Waterproof Test for Clay Brick, 60 feet below-grade, London Underground: Passed
 - 7. Waterproof Test for Concrete, 60 feet below-grade, British Rail: Passed

PART 3 – EXECUTION

3.1 PROJECT CONDITIONS

- A. The concrete shall be placed in accordance with normally accepted standards and guidelines by American Concrete Institute (ACI) 302. Water/cement ratio is recommended to be .45 but must be no greater than 0.50.
- B. Site verification of conditions: Verify concrete substrate conditions are acceptable for product installation in accordance with manufacturer's instructions.
 - 1. Prior to work in this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
 - 2. Verify that work in this section may be installed in strict accordance with the original design, all pertinent codes and regulations and all pertinent portions of the referenced standards.
 - 3. Verify concrete finish is within material manufacturer's acceptable range.
 - 4. In the event of discrepancy, immediately notify the Architect. Do not proceed with application in area of discrepancy until all such discrepancies have been fully resolved.

3.2 EXAMINATION

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- A. On new concrete verify type and method of curing to determine duration before sealer application.
- B. Verify that surfaces are free of loose particles and that all paints, sealers, coatings etc. have been removed.
- C. On existing concrete, masonry and stone applications, verify repairs have been satisfactorily completed.
- D. Cracks, joints, etc. shall be repaired with appropriate repair materials and will be in accordance with the manufacturer's written instructions.
- E. Surfaces to be treated must be dry. If rain is anticipated within 12 hours of application, do not apply treatment. Temperature and humidity of installation environment shall be at anticipated service conditions.
- F. In hot weather or windy conditions, installation of HLQ-125 should be postponed or done in small areas.

3.3 INSTALLATION

- A. SINAK HLQ-125 application shall comply with manufacturer's written instructions and recommendations.
 - a. SINAK HLQ-125 application may begin any time five days after concrete placement when cured with a SINAK curing agent.
 - b. Application of HLQ-125 over water cured concrete may begin after the surface has been cleaned and is dry to the touch.
 - c. Application over all other surfaces may begin after a small test area has been done to ensure proper penetration.
 - d. Installation should be continuous. If rain should occur at any time during process; see "Interrupted Applications" at the end of the Product Information Sheet.
 - e. Apply HLQ-125 to the substrate by wetting the surface with an airless or low-pressure sprayer. DO NOT allow material to puddle.
 - f. Coverage rates may vary due to substrate and environmental conditions. Consult the manufacture's data sheet for recommendations.
- B. Clean all equipment by rinsing with water.

3.4 PROTECTION

- A. Be responsible for protection of work area until owner's acceptance. Owner shall be responsible for reasonable care and maintenance of the installed treatment upon completion.
- B. Provide safe storage of product before and during application. Product that freezes shall be discarded.
- C. Be responsible to protect adjacent construction materials, glass, and metals which may be stained by overspray.

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END OF SECTION