# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 and 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. Section Includes:
1. Seal-hardener application on interior building floor slabs indicated as sealed concrete on Drawings.
2. Precautions for avoiding staining concrete before and after application.

B. Related Sections:
1. Section 018113 “Sustainable Design Requirements.”
2. Section 033000 "Cast-in-Place Concrete" for concrete slab requirements.
3. Section 033500 “Polished Concrete” for concrete scheduled to receive polishing.

## 1.3 ACTION SUBMITTALS

A. Product Data: For each type of product required. Include manufacturer's technical data, application instructions, and recommended coverage rates.
1. Provide documentation stating materials used meet South Coast Air Quality Management District requirements.

B. LEED Submittals: Credits MRc4, MRc5 and EQc4.2: Refer to Section 018113 “Sustainable Design Requirements” for additional submittal requirements.

C. Shop Drawings: Include the following:
1. Plan view of floor and joint pattern layout.

## 1.4 INFORMATIONAL SUBMITTALS

A. Manufacturer’s Certificate: Manufacturer’s certification that the installer is acceptable.

## 1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: Maintenance instructions, including precautions for avoiding staining after application.

## 1.6 QUALITY ASSURANCE

A. Installer Qualifications: Installer shall be experienced in performing work of this section, having specialized in installation of work similar to that required for this project. Installer shall be acceptable to the manufacturer.

B. Source Limitations: Obtain all concrete finishing components and materials from a single source from single manufacturer.

C. Mock-Ups: Apply mockups to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Size: 100 square feet sample panel at jobsite at location as directed under conditions similar to those which will exist during actual placement.
   2. Mock-up shall be used to judge workmanship, concrete substrate preparation, operation of equipment, material application, color selection and shine.
   3. Mock-up shall include a stair tread or landing with contrasting stripe, when applicable to project scope.
   4. Mock-up shall be tested to meet specifications for the following tests:
      a. Slip resistance.
   5. When accepted, mock-up will demonstrate minimum standard of quality required for this work.
   6. Approved mock-up may remain as part of finished work.

D. Pre-installation Conference: Conduct conference at Project site to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Review the following:
   1. Environmental requirements.
   2. Scheduling and phasing of work.
   3. Coordinating with other work and personnel.
   4. Protection of adjacent surfaces.
   5. Surface preparation.
   6. Repair of defects and defective work prior to installation.
   7. Cleaning.
   8. Application of liquid cure-seal-hardener.
   9. Protection of finished surfaces after installation.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

C. Handling: Protect materials from dirt, corrosion, oil, grease and other contaminants.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Comply with manufacturer's recommendations regarding environmental requirements and temperature and conditions of surfaces to receive finishing system.

B. Lighting: Illuminate work areas during installation to provide the same or greater level of illumination required to properly perform work, and as will occur in the room or space after the building is in operation.

1.9 WARRANTY

A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair concrete treated with cure-seal-hardener or reapply cure-seal-hardener that fails in materials or workmanship within specified warranty period.
   1. Warranty Period: 20 years from date of Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Design Requirements: Refer to Section 033000 “Cast-in-Place Concrete.”

B. Refer to Section 033000 “Cast-in-Place Concrete” for trowel finish requirements at interior floor slabs complying with ACI 302.1R without burn marks.

A. VOC Content of all sealers, primers and other liquids used on interior concrete shall comply with South Coast Air Quality Management District requirements.

B. Provide sealed concrete floor that has been selected, manufactured and installed to achieve the following:
   1. Coefficient of Friction (COF): Meets DCOF value of 0.42 when measured per the DCOF AcuTest in accordance with ANSI A137.1.
   2. Meets or exceeds ANSI/NFSI B101.1, High Traction field testing.

2.2 MATERIALS

A. Products: Subject to compliance with requirements, provide the following:
   1. Consolideck LS/CS by PROSOCO, Inc. (Basis-of-Design)
   2. Liqui-Hard Ultra by W.R. Meadows
   3. Pentra-Hard Densifier by Dayton Superior
   4. Pentra-Sil (HDS) by Convergent Concrete Technologies

B. Micro-film forming hybrid inorganic/organic lithium surface treatment concrete Sealer, containing lithium chemistry to form an insoluble bond with concrete surfaces, meeting the following characteristics and properties:
   1. Lithium microfilm-forming treatment offering increased stain and abrasion resistance.
   2. Minimum 23-percent solids, containing less than 50 gms/L of VOC content.
   3. Penetrating between 2-8mm into concrete surface and offering excellent abrasion resistance.

C. LEED Material Credits MRc4, MRc5 and EQc4.2: Refer to Section 018113 “Sustainable Design Requirements” for additional product requirements.

2.3 ACCESSORIES

A. Temporary Surface Protection Mat: Pre-coated fabric mat and primer.
   1. Products: Subject to compliance with requirements, provide the following:
      a. Skudo HT with water-based base coat by Skudo USA, Inc.
      b. Or Equal.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that concrete substrate conditions are acceptable for product installation in accordance with manufacturer's instructions prior to installation of concrete finishing materials. Do not begin installation until substrates have been properly prepared and are suitable for application of product.

B. Concrete Slab Performance Requirements: Concrete surfaces scheduled to receive seal-hardener shall receive a trowel finish per section 033000 "Cast-in-Place Concrete."

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation ensuring surfaces are clean and free of dirt and other foreign matter harmful to performance of concrete finishing materials. Do not allow equipment to drip oil, hydraulic fluid or other liquid before or during application.

3.3 INSTALLATION

A. General: Comply with manufacturer's written instructions.
   1. Apply to concrete after initial curing period. Do not apply to concrete less than 28 days old.

B. Floor Surface Treatment:
   1. Provide floor treatment in entirety of slab indicated by drawings. Provide consistent finish in all contiguous areas.
   2. Apply floor finish prior to installation of fixtures and accessories.
   3. Level of sheen shall match that of approved mock-up.
   4. Variations in substrate texture and color will affect final appearance and should be corrected prior to application of seal-hardener. All concrete surfaces shall be as uniform in appearance as possible.

3.4 PROTECTION

A. Prepare substrates using the methods recommended by the protection mat manufacturer for achieving the best result for the substrate under the project conditions. Do not proceed with installation until substrates have been properly prepared. Commencement of installation constitutes acceptance of conditions.

B. Protect installed product from damage during construction in accordance with sealed concrete finishing product manufacturer's recommendations.

C. Protect finished surfaces from damage and soiling and other construction activities. Without damaging completed work, provide protective cover.

D. Restrict foot traffic as recommended by manufacturer for a minimum of 12 hours.

E. Fresh concrete must have a maximum pH of 10 which, which usually requires a 7 day cure, prior to the application of the protection mat.

F. Install protection mat in strict compliance with manufacturer's installation guide and recommendations including the following:

1. Apply liquid base coat (primer) using roller or airless sprayer, approximately 160 to 200 square feet per gallon.
2. Roll out coated top mat over the base coat and press into primer while it is still wet.

END OF SECTION