

**SECTION 09 67 23
RESINOUS FLOORING
(ALTERNATE No. 1A)**

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes one resinous flooring system, one with urethane body.

1.02 SUBMITTALS

- A. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.
- B. Insert requirements for Shop Drawings if special color patterns are required.
- C. Samples for Verification: For each resinous flooring system required, 6 inches (150 mm) square, applied to a rigid backing by Installer for this Project.
- D. Product Schedule: Use resinous flooring designations indicated in Part 2 and room designations indicated on Drawings in product schedule.
- E. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.
- F. Maintenance Data: For resinous flooring to include in maintenance manuals.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous flooring systems similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous flooring manufacturer.
 - 1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
 - 2. Contractor shall have completed at least 10 projects of similar size and complexity.
- B. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, through one source from a single manufacturer, with not less than ten years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.
- C. Manufacturer Field Technical Service Representatives: Resinous flooring manufacture shall retain the services of Field Technical Service Representatives who are trained specifically on installing the system to be used on the project.
 - 1. Field Technical Services Representatives shall be employed by the system manufacture to assist in the quality assurance and quality control process of the installation and shall be available to perform field problem solving issues with the installer.
- D. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Apply full-thickness mockups on 48-inch- (1200-mm-) square floor area selected by

- Architect.
 - 2. Include 48-inch (1200-mm) length of integral cove base.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
 - 4. Sign off from Architect and Owner/Owners agent on texture for slip resistance must be complete before installation of flooring system.
- E. Pre-installation Conference:
- 1. General contractor shall arrange a meeting not less than thirty days prior to starting work.
 - 2. Attendance:
 - a. General Contractor
 - b. Architect.
 - c. Manufacturer/Installer's Representative.
 - d. If required by authorities having jurisdiction or Owner, insert fire-test-response-characteristic requirements to suit Project.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.
- B. Store materials to prevent deterioration from moisture, heat, cold, direct sunlight, or other detrimental effects.
- C. All materials used shall be factory pre-weighed and pre-packaged in single, easy to manage batches to eliminate on site mixing errors. No on site weighing or volumetric measurements allowed.

1.05 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.
 - 1. Maintain material and substrate temperature between 65 and 85 deg F (18 and 30 deg C) during resinous flooring application and for not less than 24 hours after application.
- B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.
- D. Concrete substrate shall be properly cured for a minimum of 30 days. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring.

1.06 WARRANTY

- A. Manufacturer and contractor shall furnish a written warranty covering material and workmanship for a period of (1) full years from date of installation.

PART 2 - PRODUCTS

2.01 RESINOUS FLOORING

- A. Products/manufacturer:
 - 1. Stonhard, A Division of StonCor Group, Inc Stonhard, Inc.
 - 2. Product:
 - a. Stontec ERF with Stonseal GS6, or approved equal.
 - b. Locations: In areas as indicated on drawings.
- B. System Characteristics:
 - 1. Color and Pattern: As selected by the architect from the manufacturer's full range.
 - 2. Wearing Surface: Standard
 - 3. Integral Cove Base: 4" high, refer to drawings.
 - 4. Overall System Thickness – 2mm
- C. System Components: Manufacturer's standard components that are compatible with each other and as follows:
 - 1. Primer:
 - a. Material Basis: Stonhard Standard Primer
 - b. Resin: Epoxy
 - c. Formulation Description: (2) two component 100 percent solids.
 - d. Application Method: Squeegee and roller.
 - e. Number of Coats: (1) one
 - f. Aggregates: Broadcast quartz into wet primer coat.
 - 2. Body Coat and First Broadcast:
 - a. Material Basis: Stonshield Undercoat
 - b. Epoxy
 - c. Formulation Description: (3) three component solvent free epoxy.
 - d. Application method: Notched squeegee
 - 1) Thickness of Coats: 35-40 mils with standard primer and broadcast silica
 - 2) Number of Coats: (1) One.
 - 3. Second Broadcast: Decorative Flake
 - a. Material Basis: Stonhard clear undercoat and Stontec Flakes
 - b. Formulation Description: clear epoxy and decorative Flake
 - c. Type: Tweed (chips to be mixed in Mfg. facility)
 - d. Finish: Broadcast to rejection.
 - e. Number of Coats: (1) One
 - 4. Grout coat:
 - a. Material Basis: Stonshield Sealer
 - b. Resin: Epoxy
 - c. Formulation Description: (2) component, UV stable, solvent free epoxy
 - d. Texture: TBD
 - e. Finish: Clear gloss
 - f. Number of Coats: (1) One
 - 5. Top coat:
 - a. Material Basis Stonseal GS6
 - b. Resin: Aliphatic urethane
 - c. Formulation Description: (2) component, UV stable, clear utethane
 - d. Texture: TBD

- e. Finish: Clear gloss
 - f. Number of Coats: (1) One.
- C. Applications:
- 1. Flooring and base as indicated on the Drawings.

2.02 WATERPROOFING

- A. Manufacturer: Stonhard, A Division of StonCor Group, Inc. Stonhard, Inc.
- B. Product: Stonhard's Stonproof ME7 Membrane System.
 - 1. Armstrong World Industries, Inc., Classic Corlon.
 - 2. Congoleum Corporation, Marathon.

PART 3 - EXECUTION

3.01 PREPARATION

- A. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry, and neutral Ph substrate for resinous flooring application.
- B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.
 - 1. Mechanically prepare substrates as follows:
 - a. Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup.
 - b. Comply with ASTM C 811 requirements, unless manufacturer's written instructions are more stringent.
 - 2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written recommendations.
 - 3. Verify that concrete substrates are dry.
 - a. Perform in situ probe test, ASTM F 2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 85 percent.
 - b. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 7 lb of water/1000 sq. ft. of slab in 24 hours.
 - c. Perform additional moisture tests recommended by manufacturer. Proceed with application only after substrates pass testing.
 - 4. Verify that concrete substrates have neutral Ph and that resinous flooring will adhere to them. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- C. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.
- D. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
- E. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written recommendations. Allowances should be included for Stonflex MP7 joint fill material, and CT5 concrete crack treatment.

3.02 APPLICATION

- A. General: Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.
 - 1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
 - 2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
 - 3. At substrate expansion and isolation joints, provide joint in resinous flooring to comply with resinous flooring manufacturer's written recommendations.
 - a. Apply joint sealant to comply with manufacturer's written recommendations.
- B. Apply primer where required by resinous system, over prepared substrate at manufacturer's recommended spreading rate.
- C. Integral Cove Base: Manufacturer mortar, apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details including those for taping, mixing, priming, troweling, sanding, of cove base. Round internal and external corners.
- D. Mortar: Mix mortar material according to manufacturer's recommended procedures. Uniformly spread mortar over substrate at manufacturer's recommended height using specially designed trowel and or Screed box. Broadcast desired light texture directly into mortar base. Field verify texture needed
- E. Apply topcoat in number of coats indicated for flooring system and at spreading rates recommended in writing by manufacturer.

3.03 TERMINATIONS

- A. Chase edges to "lock" the flooring system into the concrete substrate along lines of termination.
- B. Penetration Treatment: Lap and seal the flooring system onto the perimeter of the penetrating item by bridging over compatible elastomer at the interface to compensate for possible movement.
- C. Trenches: Continue flooring system into trenches to maintain monolithic protection. Treat cold joints to assure bridging of potential cracks.
- D. Treat floor drains by chasing the flooring system to lock in place at point of termination.

3.04 JOINTS AND CRACKS

- A. Treat control joints to bridge potential cracks and to maintain monolithic protection.
- B. Treat cold joints and construction joints to bridge potential cracks and to maintain monolithic protection on horizontal and vertical surfaces as well as horizontal and vertical interfaces.
- C. Discontinue floor coating system at vertical and horizontal contraction and expansion joints by installing backer rod and compatible sealant after coating installation is completed. Provide sealant type recommended by manufacturer for traffic conditions and chemical exposures to be encountered.

3.05 FIELD QUALITY CONTROL

- A. Material Sampling: Owner may at any time and any numbers of times during resinous flooring application require material samples for testing for compliance with requirements. Owner will engage an independent testing agency to take samples of materials being used. Material samples will be taken, identified, sealed, and certified in presence of Contractor.
 - 1. Testing agency will test samples for compliance with requirements, using applicable referenced testing procedures or, if not referenced, using testing procedures listed in manufacturer's product data.
 - 2. If test results show applied materials do not comply with specified requirements, pay for testing, remove noncomplying materials, prepare surfaces coated with unacceptable materials, and reapply flooring materials to comply with requirements.

3.06 CLEANING, PROTECTING, AND CURING

- A. Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 18 hours.
- B. Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application. General Contractor is responsible for protection and cleaning of surfaces after final coats.
- C. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer.

-END OF SECTION-