

SECTION 096723 - RESINOUS FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

- 1. Resinous flooring systems.

B. Related Sections:

- 1. Section 079200 "Joint Sealants" for sealants installed at joints in resinous flooring systems.

1.3 ACTION 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. Samples for Initial Selection: For each type of exposed finish required.
- C. Samples for Verification: For each resinous flooring system required, 6 inches square, applied to a rigid backing by Installer for this Project.
- D. Product Schedule: For resinous flooring. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

- A. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.
- B. Material Certificates: For each resinous flooring component, from manufacturer.
- C. Material Test Reports: For each resinous flooring system.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For resinous flooring to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of flooring systems required for this Project.
 - 1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
- B. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. 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. 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-square floor area selected by Architect.
 - a. Include 48-inch length of integral cove base with inside and outside corner.
 - 2. Simulate finished lighting conditions for Architect's review of mockups.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- D. Preinstallation Conference: Conduct conference at Project site.

1.7 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.

1.8 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.
- 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.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Stonehard Inc.; Stoneshield SLT, or comparable product by one of the following:
1. Atlas Minerals & Chemicals, Inc.; Polymer Flooring Division.
 2. BASF Construction Chemicals, Inc.; BASF Building Systems.
 3. Crossfield Products Corp.; Dex-O-Text.
 4. Crown Polymers, LLC.
 5. DUDICK Inc.
 6. Dur-A-Flex, Inc.
 7. Key Resin Company.
 8. PPG Industries, Inc.
 9. Sherwin-Williams Company; General Polymers.

2.2 RESINOUS FLOORING

- A. Resinous Flooring: Abrasion-, impact- and chemical-resistant, decorative-aggregate-filled, epoxy-resin-based, monolithic floor surfacing designed to produce a seamless floor and integral cove base.
- B. System Characteristics:
1. Color and Pattern: As selected by Architect from manufacturer's full range.
 2. Wearing Surface: Manufacturer's standard wearing surface.
 3. Overall System Thickness: 1/4 inch.
- C. Body Coats:
1. Resin: Epoxy.
 2. Application Method: Trowel applied.
 - a. Thickness of Coats: 1/8 inch minimum.
 - b. Number of Coats: One.
 - c. Color: As selected.
 3. Aggregates: Graded quartz.
- D. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:
1. Compressive Strength: 9,000 psi after 7 days per ASTM C 579.
 2. Tensile Strength: 1,600 psi per ASTM C 307.
 3. Flexural Strength: 4,000 psi per ASTM C 580.
 4. Flexural Modulus of Elasticity: 1.0×10^6 psi.
 5. Water Absorption: 0.1 percent per ASTM C 413.
 6. Coefficient of Friction (dry): Standard Texture 1.0 ASTM CF1679.
 7. Slip Resistance Index (wet): Standard Texture > 1.0 per ASTM F-1679
 8. Impact Resistance: greater than 160 in/lbs. per ASTM D-2794.
 9. Flammability: Self Extinguishing – Extent of burning 0.25 in. max per ASTM D-635.

10. Thermal Coefficient of Linear Expansion: 1.8×10^{-5} in./in. degrees C per ASTM C-531
11. Heat Resistance Limitation: 140 degrees F/60 degrees C
12. Cure Rate: 12 hours for foot traffic
13. Hardness: 85 to 90, Shore D per ASTM D 2240.
14. Abrasion Resistance: 0.06 pm max. weight loss per ASTM-D-4060, CS-17

2.3 ACCESSORIES

- A. Primer (required): Type recommended by manufacturer for substrate and body coats indicated.
- B. Waterproofing Membrane: Where required, provide type recommended by manufacturer for substrate and primer and body coats indicated.
- C. Patching and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.
- D. Cove Cap: 1/8 inch metal cove cap for integral cove base.
- E. Spot and Stain Remover:
 1. Manufacturer:
 - a. Stonekleen SR9.

PART 3 - EXECUTION

3.1 PREPARATION

- A. General: Prepare and clean substrates according to flooring manufacturer's written instructions for substrate indicated. Provide clean, dry 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 flooring.
 1. Roughen concrete 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.
 2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.
 3. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application of resinous flooring only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. of slab area in 24 hours.
 - b. Perform plastic sheet test, ASTM D 4263. Proceed with application only after testing indicates absence of moisture in substrates.

- c. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
4. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. 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 instructions.

3.2 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, comply with resinous flooring manufacturer's written instructions.
- B. Apply primer over prepared substrate at manufacturer's recommended spreading rate.
- C. Apply waterproofing membrane, where indicated, in manufacturer's recommended thickness.
 1. Apply waterproofing membrane to integral cove base substrates.
- D. Install metal cove base cap in accordance with manufacturer's instructions.
- E. Integral Cove Base: 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, and topcoating of cove base. Round internal and external corners.
 1. Integral Cove Base: 6 inches high.
- F. Apply troweled or screeded body coats in thickness indicated for flooring system. Hand or power trowel and grout to fill voids. When cured, remove trowel marks and roughness using method recommended by manufacturer.
- G. Apply topcoats in number indicated for flooring system and at spreading rates recommended in writing by manufacturer.

3.3 FIELD QUALITY CONTROL

- A. Core Sampling: At the direction of Owner and at locations designated by Owner, take one core sample per 1000 sq. ft. of resinous flooring, or portion of, to verify thickness. For each sample that fails to comply with requirements, take two additional samples. Repair damage caused by coring and correct deficiencies.
- B. Material Sampling: Owner may at any time and any number of times during resinous flooring application require material samples for testing for compliance with requirements.
 - 1. 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.
 - 2. 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.
 - 3. 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.

3.4 PROTECTION

- A. Protect resinous flooring from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

END OF SECTION 09 67 10



Addendum

James T. Vaughn Correctional Center T1 & T2 ADA IMPROVEMENTS

Tt Project No. 16097-12010 & 200-01291-13910
OMB/DFM contract no. MC3804000009

Addendum No. 2 Revised
To
Drawings and Project Manual

November 29, 2012

To: ALL BIDDERS

This ADDENDUM forms a part of the BIDDING AND CONTRACT DOCUMENTS and modifies the following documents:

ORIGINAL DRAWINGS and PROJECT MANUAL dated October 10, 2012.

Acknowledge receipt of the ADDENDUM in the space provided on the FORM OF PROPOSAL

This ADDENDUM consists of (1) page plus attachments:

1.0 GENERAL NOTES

1.1 Bidders are hereby notified that this Addendum shall be and hereby becomes part of their Contract Documents and shall be attached to the Project Manual for this project.

1.2 **REVISED DATES:**

1.2.1 **Site Walk Thru: Monday December 3, 2012 at 10:00 am.** Meet at the main entrance of the Facility. Attendees can only be individuals listed on the e-mail I issued yesterday, or those with open background approvals (JTVCC) that we have registered with Maintenance.

1.2.2 **BID DATE: December 11, 2012 at 11:00 am,** Location: no change - OMB/DFM's main office, Thomas Collins Building, Dover.

2.0 CHANGES TO PROJECT MANUAL

2.1 **ADD** Specification Section 09 67 10 Resinous Flooring in its entirety as attached to this Addendum.

Attachments: Specification Section 09 67 10 Resinous Flooring

END OF ADDENDUM No. 2