

**THE  
UNIVERSITY  
OF RHODE ISLAND**

**DIVISION OF  
ADMINISTRATION  
AND FINANCE**

THINK BIG WE DO™

PURCHASING DEPARTMENT  
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DATE: 6/6/16

ADDENDUM #1

BID NO.: 100253  
OPENING: 6/16/16 at 3:00PM  
COMMODITY: Butterfield Floor Renovation

Per the issuance of this addendum:

The specifications have been revised and are attached.

Questions for this bid will be due 6/9/16 at 12:00PM. Please submit all questions in Word format to [uripurchasing@uri.edu](mailto:uripurchasing@uri.edu).

The sign-in sheet from the non-mandatory pre-bid is attached.

A handwritten signature in black ink, appearing to read "Ryan Pincince", written over a horizontal line.

Ryan Pincince  
Assistant Purchasing Agent

SECTION 09 67 23 - RESINOUS FLOORING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract.

1.2 SUMMARY

- A. This section includes the following:
  - 1. Resinous flooring system as shown on the drawings.

1.3 SYSTEM DESCRIPTION

- A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with decorative quartz aggregate broadcast and Epoxy broadcast and topcoats.
- B. The system shall have the color and texture to match the existing dish room flooring with a nominal thickness of 1/4 inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
- C. Cove base (min. 4") to be applied where noted on plans and per manufacturer's standard details.

1.4 SUBMITTALS

- A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
- B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
- C. Manufacturer's standard color chart, identifying color and texture to match the existing dish room quartz flooring.

1.5 QUALITY ASSURANCE

- A. The Manufacturer shall have a minimum of 10 years experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.
- B. The Applicator shall have experience in installation of the flooring system as confirmed by the manufacturer in all phases of surface preparation and application of the product specified.
- C. No requests for substitutions shall be considered that would change the generic type of the specified System.
- D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.
- E. System shall be in compliance with the Indoor Air Quality requirements of California section 01350 as verified by a qualified independent testing laboratory.
- F. A pre-installation conference shall be held between Applicator and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping
  - 1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.
- B. Storage and Protection
  - 1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 60 F and 85 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.

2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.
- C. Waste Disposal
  1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system. All other waste requiring special provisions for disposal will be the responsibility of the Applicator in accordance with all local and State regulations.

1.7 PROJECT CONDITIONS

A. Site Requirements

1. Work must start no earlier than **July 5, 2016** and be completed by **July 22, 2016**.
2. The Owner shall be responsible to remove all equipment and food products from the work area.
3. The Owner shall disconnect and reconnect utility to existing equipment as required to prepare and install new flooring.
4. Application may proceed while air, material and substrate temperatures are between 60 F and 85 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
5. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
6. The Applicator shall ensure that adequate ventilation is available for the work area. This shall include the use of manufacturer's approved fans, smooth bore tubing and closure of the work area.
7. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Safety Requirements

1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
2. "No Smoking" signs shall be posted at the entrances to the work area.
3. Non-related personnel in the work area shall be kept to a minimum.
4. Fire protection system impairment request should be submitted if the work is deemed necessary. (i.e. excessive dust during floor preparation may impact smoke detectors.)

1.8 WARRANTY

- A. Manufacturer's warranty covering the resinous flooring against defects in materials for one year from date of installation.
- B. Applicator shall perform per manufacturer's installation procedures and recommendations and warrant the installation for one year from date of installation.

PART 2 – PRODUCTS

2.1 FLOORING

- A. Resinous Flooring - self leveling broadcast quartz, epoxy/aliphatic urethane topcoat seamless flooring system. (Basis of Design: Dur-A-Flex, Inc, Hybri-Flex EQ, color: Q28-37 or equal)
  1. System Materials:
    - a. Topping: resin, hardener and aggregate.
    - b. The broadcast aggregate shall be fine multi-colored quartz aggregate.
    - c. Broadcast: epoxy based two-component resin.
    - d. Grout coat: epoxy-based, two-component resin.
    - e. Top coat: aliphatic urethane two-component resin.

2. Patch Materials
  - a. Shallow Fill and Patching: per manufacturer's recommendation
  - b. Deep Fill and Sloping Material (over ¼ inch): per manufacturer's recommendation

2.2 MANUFACTURER

- A. Basis of Design: Dur-A-Flex, Inc., 95 Goodwin Street, East Hartford, CT 06108, Phone: (860) 528-9838, Fax: (860) 528-2802
- B. Manufacturer of Approved System shall be single source and made in the USA.

2.3 PRODUCT REQUIREMENTS

- A. Topping Poly-Crete SL or Approved Equal

- |  |                           |
|--|---------------------------|
| 1. Percent Reactive  | 100 %                     |
| 2. VOC   | 0 g/L                     |
| 3. Bond Strength to Concrete ASTM D 4541   | 400 psi, substrates fails |
| 4. Compressive Strength, ASTM C 579  | 9,000 psi                 |
| 5. Tensile Strength, ASTM D 638  | 2,175 psi                 |
| 6. Flexural Strength, ASTM D 790   | 5,076 psi                 |
| 7. Impact Resistance @ 125 mils, MIL D-3134,<br>No visible damage or deterioration | 160 inch lbs              |

- B. Broadcast Coat Dur-A-Glaze #4 Resin or Approved Equal

- |  |                              |
|--|------------------------------|
| 1. Percent Reactive,                               | 100 %                        |
| 2. VOC   | <4 g/L                       |
| 3. Water Absorption, ASTM D 570                    | 0.04%                        |
| 4. Tensile Strength, ASTM D 638                    | 4000psi                      |
| 5. Coefficient of thermal expansion<br>ASTM D 696, | 2 x 10 <sup>-5</sup> in/in/F |
| 6. Flammability ASTM D-635                         | Self-Extinguishing           |
| 7. Flame Spread/ NFPA 101 ASTM E-84                | Class A                      |

- C. Topcoat Armor Top or Approved Equal

- |   |   |
|---|---|
| 1. VOC  | 0 g/L   |
| 2. 60 Degree Gloss ASTM D523  | 75+/-5  |
| 3. Mixed Viscosity, (Brookfield 25°C)   | 500 cps   |
| 4. Tensile strength, ASTM D 638   | 7,000 psi   |
| 5. Abrasion Resistance, ASTM D4060<br>CS 17 wheel (1,000 g load) 1,000 cycles | Gloss<br>4 mg loss with grit<br>10 mg loss without grit |
| 6. Pot life @ 70° F 50% RH  | 2 hours   |
| 7. Full Chemical resistance   | 7 days  |

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas and conditions for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
  1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

**3.2 PREPARATION****A. General**

1. Protect all openings of adjoining areas from construction dust.
2. Existing surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products. Clean and degrease existing floor with manufacturer's recommended cleaner/degreaser.
3. Moisture Testing: Perform tests recommended by manufacturer.
4. Mechanical surface preparation
  - a. Mechanically prepare surface per manufacturer's recommendation to have a minimum profile of CSP 3-4 as described by the International Concrete Repair Institute.
  - b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
  - c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4 inch key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and at transition points.
  - d. Cracks and joints (non-moving) greater than 1/8 inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
5. At spalled or worn areas, mechanically remove loose or delaminated floor substrate and patch per manufacturer's recommendations.

**3.3 APPLICATION****A. General**

1. The system shall be applied in five distinct steps as listed below:
  - a. Substrate preparation
  - b. Topping/overlay application with quartz aggregate broadcast.
  - c. Resin application with quartz aggregate broadcast.
  - d. Topcoat application
  - e. Second topcoat application.
2. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

**B. Topping**

1. The topping shall be applied as a self-leveling system as specified. The topping shall be applied in one lift with a nominal thickness of 1/8 inch.
2. The topping shall be comprised of three components, a resin, hardener and filler as supplied by the Manufacturer.
3. The hardener shall be added to the resin and thoroughly dispersed by suitably approved mechanical means. Aggregate shall then be added to the catalyzed mixture and mixed in a manner to achieve a homogenous blend.
4. The topping shall be applied over horizontal surfaces using 1/2 inch "v" notched squeegee, trowels or other systems approved by the Manufacturer.
5. Immediately upon placing, the topping shall be degassed with a loop roller.
6. Quartz aggregate shall be broadcast to excess into the wet material at the rate of 0.8 lbs/sf.
7. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

C. Broadcast

1. The broadcast coat resin shall be applied at the rate of 90 sf/gal.
2. The broadcast coat shall be comprised of liquid components, combined at a ratio of 2 parts resin to 1 part hardener by volume and shall be thoroughly blended by mechanical means such as a high speed paddle mixer.
3. Quartz aggregate shall be broadcast into the wet resin at the rate of 0.5 lbs/sf.
4. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

D. Grout coat

1. The grout coat shall be squeegee applied with a coverage rate of 90 sf/gal.
2. The grout coat shall be comprised of liquid components, combined at a ratio of 2 parts resin to 1 part hardener by volume and shall be thoroughly blended by mechanical means such as a high speed paddle mixer.
3. The grout coat will be back rolled and cross rolled to provide a uniform texture and finish.

D. Topcoat

1. The topcoat shall be roller applied with a coverage rate of 500 sf/gal. Add grit additive per manufacturer's instructions.
2. The finished floor will have a nominal thickness of 1/4 inch.

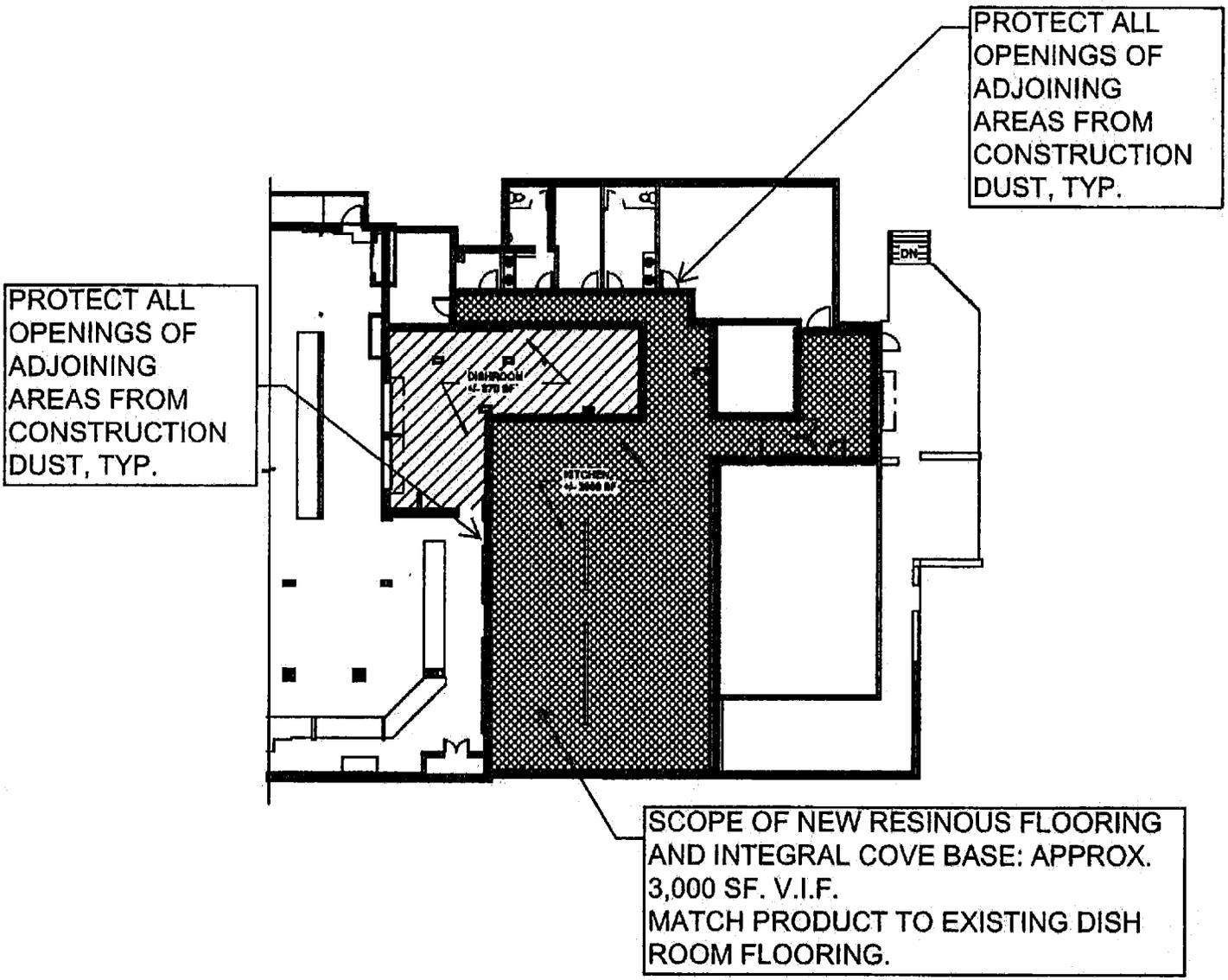
3.4 FIELD QUALITY CONTROL

A. Tests, Inspection

1. The following tests shall be conducted by the Applicator:
  - a. Temperature
    1. Air, substrate temperatures and, if applicable, dew point.
  - b. Coverage Rates
    1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.5 CLEANING AND PROTECTION

- A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
- B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface.
- C. Properly dispose of all debris and waste.



PARTIAL PLAN - EXISTING KITCHEN  
 NOT TO SCALE

THE UNIVERSITY OF RHODE ISLAND  
 1 Butterfield Road, Kingston, RI  
 BUTTERFIELD DINING HALL - KITCHEN FLOORING

