

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions

1.02 SUMMARY

A. This section includes the following:

1. Resinous flooring system as shown on the drawings and in schedules.

1.03 SYSTEMS DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of the following:

1. Cementitious Urethane Flooring System designed for application listed in the specification, consisting of the following:
 - a. Poly-Crete MD base coat. Self-leveling, neutral color, includes a flintshot broadcast.
 - b. Poly-Crete TF Plus topcoat. Color determined by the owner.

B. The systems shall have the color and texture as specified by the Owner with a nominal thickness of ¼ inch. A textured floor sample will be available on the job site to verify that finished work meets with floor safety and sanitation expectations. 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 to be applied per manufacturers standard details in the kitchen and restrooms unless otherwise noted. A cove base sample will be available on the job site to profile, texture and even transition radius to improve floor sanitation.

1.03 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. Samples:

1. Three six (6) inch square sample of each of the two proposed systems.
2. One cove base sample selected from one of the designated floor systems.
3. Color, texture, and thickness shall be representative of overall appearance of finished systems
4. Contact Dur-A-Flex for samples. 860-528-9838

1.04 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 5 years' experience in the production, sales, and technical Support of cementitious urethane, hybrid floor systems, quartz aggregate broadcast floors and related materials.

B. The Applicator shall have been approved by the flooring system Manufacturer in all phases of surface preparation and application of the products specified. The installation contractor will be chosen from a select list of and work to the standards of the Dur-A-Flex Strategic Account Program.

C. No requests for substitutions shall be considered.

D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), local Health Department and be registered under NSF International's Guidelines for Proprietary Substances and Nonfood Compounds.

E. A pre-installation conference shall be held between Applicator, Owner and to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

F. The Applicator shall strictly follow all the requirements and procedures stipulated as prepared by the manufacturer.

- G. Resinous flooring shall meet third-party ISO (International Organization for Standardization) 14025, Environmental Product Declarations (EPDs) Type III Labels certification: NSF/ANSI 332 Sustainability Assessment for Resilient Flooring.

1.06 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.

1.07 PROJECT CONDITIONS

A. Site Requirements:

1. 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.
2. 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.
3. 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.
4. 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.

1.08 WARRANTY

- A. The manufacturer shall warrant that material shipped to buyers at the time of shipment substantially free from material defects and will perform substantially to manufacturer's published literature when used in accordance with the latest prescribed procedures and prior to the expiration date.
- B. The manufacturer's liability with respect to this warranty is limited to the value of the material purchase.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Dur-A-Flex, Inc., Poly-Crete MDB with TF Plus cementitious urethane topcoat seamless flooring system.
 1. Locations (areas with potential of exposure to boiling water):
 - a. Kitchen.

- b. Scullery
- c. Public Restrooms
- 2. System Materials:
 - a. Topping: Dur-A-Flex, Inc., Poly-Crete MD resin (1/4" thick cementitious urethane base coat).
 - b. Aggregate: Dur-A-Flex, Inc., Flint Shot aggregate.
 - c. Topcoats: Dur-A-Flex, Inc., Poly-Crete Color Fast, two-component resin, color Dark Gray.
Finished surface texture shall match texture of approved samples.
- 3. Patch Materials:
 - a. Shallow Fill and Patching: Use Dur-A-Flex, Inc., Poly-Crete MD (up to ¼ inch).
 - b. Deep Fill and Sloping Material (over ¼ inch): Use Dur-A-Flex, Inc., Poly-Crete WR.
- 4. Drain Details:
 - a. Imperative to follow specific drawings for both trench and circular floor drains in areas exposed to hot water.
 - b. Deviation from drawing details are not accepted. Repairs at a later date are not possible.
- B. Dura-A-Flex, Poly-Crete TF Plus cementitious urethane topcoat seamless flooring
 - 1. Location
 - a. Warehouse
 - b. Entrance ramp and steps

2.04 PRODUCT REQUIREMENTS –

- A. Kitchen, Scullery and Restrooms.
 - 1. Base Coat Poly-Crete MD
 - 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 C579 7,250 psi
 - 5. Tensile Strength, ASTM D 638 750 psi
 - 6. Flexural Strength, ASTM D 790 4,400 psi
 - 7. Impact Resistance @ 125 mils, MIL D-3134, >160 inch lbs.

No visible damage or deterioration
 - 2. Top Coat Poly-Crete Color Fast
 - a. Percent Reactive, 100%
 - b. VOC 0 g/l
 - c. Shore D Hardness, ASTM D2240 65D
 - d. Tensile Strength, ASTM D 638 4200 psi
 - e. Compressive Strength, ASTM C579 7800 psi
 - f. Taber Abrasion, ASTM D4060 45 mg loss
 - g. Gloss, ASTM D523 60 degrees Semi-Gloss Appearance
 - h. Pot Life @ 70 F 10 minutes
 - i. Working Time @ 70 F 20 minutes
- B. Warehouse
 - 1. Two Coats of Poly Crete TF
 - b. Percent Reactive
 - c. VOC Content, 0, gl
 - d. Hardness (Shore D), ASTMD2240, 85
 - e. Tensile Strength, ASTMD 638, 750 psi
 - f. Compressive Strength, ASTM C 579, 7,250 psi
 - g. Flexible Strength, ASTM 790,4,400 psi
 - h. Impact Resistance, @125, ASTM D 1709 >160 inch lbs.
 - i. Abrasion Resistance, ASTM, C, 501, 40 mg loss
 - j. Taber CS17, Wheel 1000 GM Load 1000 Cycles

No visible damage or deterioration
 - 2. Each coat of TF Plus to be 8-10 mils DFT.
 - 3. Prior to application of TF Plus, substrate to be prepared in accordance with surface prep guidelines listed in this specification.
 - 4. Applicator to test for moisture prior to application of TF Plus.
 - a. Relative humidity test. ASTM F-2170
 - b. In the event of high moisture readings, core sampling is recommended.
 - c. Contact Dur-A-Flex for additional information.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas and conditions, with Applicator present, 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.

3.02 PREPARATION

A. General

1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
2. Moisture Testing:
3. Perform tests recommended by manufacturer and as follows: Perform anhydrous calcium chloride test ASTM F 1869-98.
4. Application will proceed only when the vapor/moisture emission rates from the slab is less than and not higher than 12 lbs./1,000 sf/24 hrs.
5. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 92% relative humidity level measurement.
6. Mechanical surface preparation:
 - a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 4-5 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 ½ 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 expansion joint edges.
 - 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.
7. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufacturer's recommendations.
8. At doorway transitions a keyway shall be cut into the floor to create a smooth transition between the restroom flooring and the adjoining polished concrete. Key way should be approx. ¼" wide x ¼" deep and be placed in an area where it will not be seen when the restroom door is closed.

3.03 APPLICATION

A. General

1. The system shall be applied in distinct steps as listed according to the specific areas of the project.
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 by the Architect.
5. A neat, professional finish with well-defined boundaries and straight edges shall be provided by the Applicator. All floor area will meet desired floor texture sample as provided on initial job overview meeting. Cove base details shall meet profile, color and texture of job site sample.
6. Coordinate the placement of prefinished aluminum termination strips (Schluter Strips) at the top of the

coved base (furnished and installed under Section 09260 with related trades, i.e., Tile and Gypsum Wall Board installers).

B.: Kitchen, Scullery areas:

1. Base Coat:

- a. The base coat shall be applied as a self-leveling system as specified by the Architect. The base coat shall be applied in one lift with a nominal thickness of 3/16 inch.
- b. The topping shall be comprised of three components, a resin, hardener and filler as supplied by the Manufacturer.
- c. The hardener shall be added to the resin and thoroughly dispersed by suitably approved mechanical means. MD Aggregate shall then be added to the catalyzed mixture and mixed in a manner to achieve a homogenous blend.
- d. The topping shall be applied over horizontal surfaces using a gauge rake or a pin rake set to deliver a 3/16" thick layer of base material. 1/2 inch "v" notched squeegee, trowels or other systems approved by the Manufacturer.
- e. Immediately upon placing, the topping shall be degassed with a porcupine roller.
- f. Flintshot aggregate shall be broadcast to excess into the wet material at the rate of 0.8 lbs./sf.
- g. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

2. TF Plus Top Coat:

- a. The top coat shall be comprised of three components, a resin, hardener and white powder filler as supplied by the Manufacturer.
- b. The resin shall be poured and all contents scraped into a steel mixing bucket, slowly add the white powder material to the resin and mix thoroughly with a high speed dispersion blade for 45 seconds. Slowly add the hardener portion to the previously mixed material and blend for an additional 45 seconds.
- c. Pour out the mixed material onto the floor and spread to proper thickness using a non-marking window squeegee. Cut in edges and around equipment with a small brush.
- d. Saturate a 18" x 3/16" thick high quality roller with the color fast top coat material. Use this roller to level and achieve a uniform consistency of the finished top coat. A final cross roll should occur 90 degrees opposite the normal traffic flow in the area being covered. Allow to dry.
- e. Additional topcoats may be required to match texture of approved sample. Finished surface texture to match approved samples. Contact Architect for samples.

C. Warehouse

Application is same as above for TF Plus topcoat

3.04 FIELD QUALITY CONTROL

A. Tests, Inspection

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

3.05 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 for subsequent work of other sections.