

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: [note to specifier: select one from list below. Contact LATICRETE technical services for assistance in determining correct system]

1. SPARTACOTE® GUARD™ Solid Color Industrial Coating System
2. SPARTACOTE GUARD SL™ Solid Color Industrial Coating System
3. SPARTACOTE GUARD PURE™ low VOC Solid Color Industrial Coating System
4. SPARTACOTE GUARD PURE SL™ low VOC Solid Color Industrial Coating System
5. SPARTACOTE FLEX PURE Clinical Plus Anti-Microbial Coating System
6. SPARTACOTE CHIP™ Seamless Chip/Flake Broadcast Coating System
7. SPARTACOTE CHIP SL™ Seamless Chip/Flake Broadcast Coating System
8. SPARTACOTE CHIP PURE™ low VOC Seamless Chip/Flake Broadcast Coating System
9. SPARTACOTE CHIP PURE SL™ low VOC Seamless Chip/Flake Broadcast Coating System
10. SPARTACOTE QUARTZ™ Monolithic Quartz Coating System
11. SPARTACOTE QUARTZ PURE™ Monolithic Quartz Coating System
12. SPARTACOTE STAIN™ Decorative Concrete Coating System
13. SPARTACOTE STAIN PURE™ Decorative Concrete Coating System
14. SPARTACOTE SEAL™ Clear Concrete Coating System
15. SPARTACOTE SEAL PURE™ Clear Concrete Coating System
16. SPARTACOTE Metallic™ Decorative Metallic Concrete Coating System
17. SPARTACOTE Metallic PURE™ Decorative Metallic Concrete Coating System

- B. Related Sections:

1. Section 079200 "Joint Sealants" for sealants installed at joints in resinous flooring systems.
2. Section 096623 "Resinous Matrix Terrazzo Flooring" for thin-set, resinous matrix terrazzo.

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. LEED Submittals:

1. Product Data for Credit IEQ 4.2: For liquid-applied flooring components, documentation including printed statement of VOC content.
2. Laboratory Test Reports for Credit IEQ 4: For flooring systems, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- C. Samples for Initial Selection: For each type of exposed finish required.
- D. Samples for Verification: For each resinous flooring system required, 6" (150 mm) square, applied to a rigid backing by Installer for this Project.
- E. Product Schedule: For resinous flooring.

#### 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" (1200-mm-) square floor area selected by Architect.
    - a. Include 48" (1200-mm) 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. Pre-installation Conference: Conduct conference at:

#### 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 LATICRETE product named or comparable product:
  - 1. Resinous flooring product to be manufactured under US Patents: 6,833,424 & 7,169,876
  - 2. Not all manufacturers produce all categories and types of resinous flooring systems; verify availability and revise list below to suit Project. Insert manufacturer'

2.2 HIGH-PERFORMANCE RESINOUS FLOORING

- A. Resinous Flooring: Abrasion, impact & chemical resistant resin based fluid applied floor surfacing designed. [Note to Specifier: contact LATICRETE to determine appropriate system and components]
  - 1. LATICRETE SPARTACOTE® GUARD™ Solid Color Industrial Flooring System
  - 2. LATICRETE SPARTACOTE GUARD SL™ Solid Color Industrial Flooring System
  - 3. LATICRETE SPARTACOTE GUARD PURE™ low VOC Solid Color Industrial Flooring System
  - 4. LATICRETE SPARTACOTE GUARD PURE SL™ low VOC Solid Color Industrial Flooring System
  - 5. LATICRETE SPARTACOTE FLEX PURE Clinical Plus Anti-Microbial Flooring System
  - 6. LATICRETE SPARTACOTE CHIP™ Seamless Chip/Flake Broadcast System
  - 7. LATICRETE SPARTACOTE CHIP SL™ Seamless Chip/Flake Broadcast System
  - 8. LATICRETE SPARTACOTE CHIP PURE™ low VOC Seamless Chip/Flake Broadcast System
  - 9. LATICRETE SPARTACOTE CHIP PURE SL™ low VOC Seamless Chip/Flake Broadcast System
  - 10. LATICRETE SPARTACOTE QUARTZ™ Monolithic Quartz Flooring System
  - 11. LATICRETE SPARTACOTE QUARTZ PURE™ Monolithic Quartz Flooring System
  - 12. LATICRETE SPARTACOTE VIVID DYE™ Decorative Concrete Coating System
  - 13. LATICRETE SPARTACOTE VIVID DYE PURE™ Decorative Concrete Coating System
  - 14. LATICRETE SPARTACOTE SEAL™ Clear Concrete Coating System
  - 15. LATICRETE SPARTACOTE SEAL PURE™ Clear Concrete Coating System
  - 16. LATICRETE SPARTACOTE METALLIC™ Decorative Metallic Concrete Coating System
  - 17. LATICRETE SPARTACOTE METALLIC PURE™ Decorative Metallic Concrete Coating System
- B. System Characteristics:
  - 1. Color and Pattern: [As selected by Architect from manufacturer's full range] [As indicated by product designation listed above] [Match Architect's sample] <Insert description>.

2. Wearing Surface: [**Textured for slip resistance**] [**Orange-peel texture**] [**Smooth**] [**Manufacturer's standard wearing surface**] <Insert description>.
3. Overall System Thickness: [**9-mils – 250 mils depending on System Selected**]
4. Federal Agency Approvals: [**USDA**] [**FDA**] approved for food-processing environments.

C. Primer / Body Coats:

1. Name: (select one depending on system)
  - a. SPARTACOTE FLEX SB (clear or pigmented)
  - b. SPARTACOTE FLEX PURE (clear or pigmented)
  - c. SPARTACOTE WB EPOXY PRIMER
  - d. SPARTACOTE SURFACE BUILD SL™ (clear or pigmented)
2. Resin: (select one depending on system)
  - a. Polyaspartic Aliphatic Polyurea
  - b. 100% Solids Epoxy
  - c. Water Based Epoxy
3. Formulation Description: [insert] percent solids.
4. Application Method: (system dependent)
  - a. Roller
  - b. Squeegee
  - c. Broom
  - d. Notched squeegee
  - e. Thickness of Coats: [insert]
  - f. Number of Coats: One.

D. Mid-Coat / Broadcast Coat:

1. Name: (select one depending on system)
  - a. SPARTACOTE FLEX SB (clear or pigmented)
  - b. SPARTACOTE FLEX PURE (clear or pigmented)
  - c. SPARTACOTE FLEX XT (clear or pigmented)
  - d. SPARTACOTE SURFACE BUILD SL™ (clear or pigmented)
2. Resin: (select one depending on system)
  - a. Polyaspartic Aliphatic Polyurea
  - b. 100% Solids Epoxy
  - c. Water Based Epoxy
3. Formulation Description: [insert] percent solids.
4. Application Method: (system dependent)
  - a. Roller
  - b. Squeegee
  - c. Broom
  - d. Notched squeegee
  - e. Thickness of Coats: [insert]
  - f. Number of Coats: One.

E. Broadcast [when applicable]

1. Name:
  - a. SPARTACOTE Blended Vinyl Chip
  - b. SPARTACOTE Blended Colored Quartz Aggregate
  - c. Specify color blend selected by architect

F. Second Mid-Coat / Broadcast Coat:

1. Name: (select one depending on system)
  - a. SPARTACOTE FLEX SB (clear or pigmented)
  - b. SPARTACOTE FLEX PURE (clear or pigmented)
  - c. SPARTACOTE FLEX XT (clear or pigmented)
  - d. SPARTACOTE SURFACE BUILD SL™ (clear or pigmented)

2. Resin: (select one depending on system)
    - a. Polyaspartic Aliphatic Polyurea
    - b. 100% Solids Epoxy
    - c. Water Based Epoxy
  3. Formulation Description: [insert] percent solids.
  4. Application Method: (system dependent)
    - a. Roller
    - b. Squeegee
    - c. Broom
    - d. Notched squeegee
    - e. Thickness of Coats: [insert]
    - f. Number of Coats: One.
  5. Aggregates: Incorporate SPARTACOTE GRIP™ traction additive as needed for increased traction COF
    - a. DIAMOND-TOPP™ Additive: For heavy-duty applications, incorporate DIAMOND-TOPP wear coat additive to increase abrasion resistance. DIAMOND-TOPP™ will leave a lightly textured, matte finish.
    - b. SPARTACOTE GRIP: Incorporate SPARTACOTE GRIP™ traction additive as needed for increased traction COF
- G. Second Broadcast [when applicable]
1. Name:
    - a. Blended Vinyl Chip
    - b. Blended Colored Quartz Aggregate
    - c. Specify color blend selected by architect
- H. Grout-Coat: [when applicable]
1. Name: (select one depending on system)
    - a. SPARTACOTE FLEX SB (clear or pigmented)
    - b. SPARTACOTE FLEX PURE (clear or pigmented)
    - c. SPARTACOTE FLEX PURE Clinical Plus (clear or pigmented)
    - d. SPARTACOTE FLEX XT (clear or pigmented)
    - e. SPARTACOTE SURFACE BUILD SL™ (clear or pigmented)
  2. Resin: (select one depending on system)
    - a. Polyaspartic Aliphatic Polyurea
    - b. 100% Solids Epoxy
    - c. Water Based Epoxy
  3. Formulation Description: [insert] percent solids.
  4. Application Method: (system dependent)
    - a. Roller
    - b. Squeegee
    - c. Broom
    - d. Notched squeegee
    - e. Thickness of Coats: [insert]
    - f. Number of Coats: One.
- I. Top-Coat:
1. Name: (select one depending on system)
    - a. SPARTACOTE FLEX SB (clear or pigmented)
    - b. SPARTACOTE FLEX PURE (clear or pigmented)
    - c. SPARTACOTE FLEX PURE Clinical Plus (clear or pigmented)
    - d. SPARTACOTE FLEX XT (clear or pigmented)
    - e. SPARTACOTE SURFACE BUILD SL™ (clear or pigmented)
  2. Resin: (select one depending on system)
    - a. Polyaspartic Aliphatic Polyurea
    - b. 100% Solids Epoxy

- c. Water Based Epoxy
  3. Formulation Description: [insert] percent solids.
  4. Application Method: (system dependent)
    - a. Roller
    - b. Squeegee
    - c. Broom
    - d. Notched squeegee
    - e. Thickness of Coats: [insert]
    - f. Number of Coats: One.
  5. Aggregates: Incorporate SPARTACOTE GRIP™ traction additive as needed for increased traction COF
  6. SPARTACOTE DIAMOND-TOPP™ Additive: For heavy-duty applications, incorporate SPARTACOTE DIAMOND-TOPP wear coat additive to increase abrasion resistance. SPARTACOTE DIAMOND-TOPP will leave a lightly textured matte finish.
- J. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:
1. Adhesion: 400+ concrete fracture per ASTM D 4541.
  2. Tensile Strength: 4,500-5,000 per ASTM D 638.
  3. Impact Direct/Reverse: 160/160 per ASTM D 2794 Inch Pounds.
  4. Abrasion Resistance: 22-28 maximum weight loss per ASTM D 4060.
  5. Flammability: Self-extinguishing per ASTM D 635.
  6. Hardness: 84, Shore D per ASTM D 2240.
- K. System Chemical Resistance: As per manufacturer's chemical resistance chart

## 2.3 ACCESSORIES

- A. Moisture Mitigation Membrane: LATICRETE DRYTEK Moisture Vapor Barrier for concrete slabs exhibiting elevated moisture vapor emission rates > 3 lbs/1000 ft<sup>2</sup>/24 hours per ASTM F1869 (170µg/s•m<sup>2</sup>) and/or 75% Relative Humidity per ASTM F2170.
1. Formulation Description: 100% Solids Chemically Enhanced Epoxy
  2. UL GREENGUARD Gold Certified – VOC <10g/L
  3. Exceeds ASTM F3010
  4. Single coat at 12 Mils Thick
  5. Alkalinity Resistance up to a pH of per ASTM D1308
- B. Patching and Fill Material: SPARTACOTE FAST FIX™ or resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.
- C. Joint Filler Material: LATICRETE L&M JOINT-TITE 750™ flexible polyurea joint filler or similar product.
- D. Traction Additive: SPARTACOTE GRIP™ traction additive from LATICRETE or similar material available in 40, 60 and 100 mesh sizes
- E. Wear Coat Additive: DIAMOND-TOPP™ additive from LATICRETE or similar material.
- F. SPARTACOTE VIVID DYE™: For decorative SPARTACOTE Concrete Dye Systems. Apply dye directly to prepared concrete prior to top-coating.
- G. SPARTACOTE Metallic Pigments: Incorporate into mid-coats for decorative metallic coating systems.

## PART 3 - EXECUTION

## 3.1 PREPARATION

- A. General: Prepare and clean substrates according to resinous 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 resinous flooring.
  - 1. Roughen concrete substrates as follows:
    - a. Mechanically profile surfaces with an apparatus that abrades the concrete surface to a profile as specified by system application guide.
    - b. Comply with ICRI Technical Guideline No. 310.2R – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
  - 2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.
  - 3. Verify that concrete substrates are dry and that MVER and/or RH 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. (170 $\mu$ g/s• m<sup>2</sup>)] <Insert emission rate> 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] <Insert number> percent relative humidity level measurement.
- 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 inter-coat 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 waterproofing membrane, where indicated, in manufacturer's recommended thickness.
  - 1. Apply waterproofing membrane to integral cove base substrates.

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- C. Integral Cove Base: Where indicated, 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 top coating of cove base. Round internal and external corners.
  - 1. Integral Cove Base: [4" (100 mm)] <Insert dimension> high.
- D. Apply primer and body coats in thickness indicated for flooring system.
- E. 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 1,000 sq. ft. (92.9 sq. m) 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.

### 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 096723