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## **PART 1 GENERAL**

### **1.01 SUMMARY**

Section Includes: SOLID VINYL FLOOR TILE

### **1.02 REFERENCED DOCUMENTS**

#### **A. ASTM International**

1. D570, Standard Test Method for Water Absorption of Plastics.
2. D2047, Standard Test Method for Static Coefficient of Friction as Measured by the James Machine.
3. D3389, Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform, Double-Head Abrader).
4. E595, Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment.
5. E648, Standard Test Method for Critical Radiant Flux of Flooring Systems Using a Radiant Energy Source.
6. E662, Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
7. E1428, Standard Test Method for Evaluating the Performance of Antimicrobials in or on Polymeric Solids Against Staining by *Streptovorticillium reticulum* (A Pink Stain Organism).
8. F150, Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring.
9. F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
10. F925, Standard Test Method for Resistance to Chemicals of Resilient Flooring.
11. F970, Standard Test Method for Static Load Limit.
12. F1482, Standard Guide to Wood Underlayment Products Available for Use under Resilient Flooring.
13. F1515, Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change.
14. F1700, Standard Specification for Solid Vinyl Floor Tile.
15. F2055, Standard Test Method for Size and Squareness of Resilient Floor Tile by Dial Gage Method.
16. G21, Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

#### **B. Other Referenced Documents**

1. National Fire Protection Association (NFPA) 253, Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source.
2. National Fire Protection Association (NFPA) 258, Test Method for Specific Density of Smoke Generated by Solid Materials.
3. National Fire Protection Association (NFPA) 99, Standard for Health Care Facilities.
4. California State Title 24, Section 3306®
5. European Norm EN 425, Resilient and laminate floor coverings. Castor chair test.
6. California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
7. The Collaborative for High Performance Schools (CHPS).

### 1.03 SUBMITTALS

- A. Product Data: Submit product data, including manufacturer's specification summary sheet for specified products.
- B. Shop Drawings: Submit shop drawings showing layout, finish colors, patterns and textures.
- C. Samples: Submit selection and verification samples for finishes, colors, and textures.
- D. Quality Assurance Submittals: Submit the following
  - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
  - 2. Manufacturer's Instructions: Manufacturer's installation and maintenance instructions.
- E. Maintenance Information: Maintenance information for installed products in accordance with Division 1 sections.
  - 1. Methods for maintaining installed products.
  - 2. Precautions against cleaning materials and methods detrimental to finishes and performance.
- F. Warranty: Warranty documents specified herein.

### 1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installing work similar to that required for this project.
- B. Regulatory Requirements:
  - 1. Fire Performance characteristics: Provide resilient vinyl floor covering with the following Fire performance characteristics as determined by testing products in accordance with ASTM method (and NFPA method) indicated below by a certified testing laboratory or another testing and inspecting agency acceptable to authorities having jurisdiction.
    - a. ASTM E648 (NFPA 253), Critical Radiant Flux of Floor Covering Systems; Class 1, Greater than 0.45 W/cm<sup>2</sup>.
    - b. ASTM E662 (NFPA 258), Specific Optical Density of Smoke Generated by Solid Materials; < 450.
- C. Single-Source Responsibility: Obtain floor tile and manufacturer's recommended adhesive from a single supplier.
- D. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, Manufacturer's conditions, recommended adhesive depending on product, substrate type and type of installation, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with requirements in Division 1.

### 1.05 DELIVERY, STORAGE AND HANDLING

- A. General: Comply with requirements in Division 1.
- B. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with Identification labels intact.
- D. Storage and Protection: Store materials protected from exposure to harmful weather conditions and acclimated to site conditions at temperature and humidity conditions recommended by manufacturer.

### 1.06 PROJECT CONDITIONS

- A. Environmental Requirements/Conditions: In accordance with manufacturer's recommendations, areas to receive Conductive/Static Dissipative Flooring shall be clean, fully enclosed, weather tight with the permanent HVAC set at a uniform temperature of 65-85 degrees F for 48 hours prior to, during and thereafter installation of Conductive/Static Dissipative Flooring. Conductive/Static Dissipative Flooring and adhesive shall be conditioned in the same manner. Flooring must be unboxed at least 48 hours prior to installation in the areas in which it will be installed.
- B. Existing Conditions: [Specify existing conditions affecting product use and installation].

**1.07 SEQUENCING AND SCHEDULING**

- A. Finishing Operations: Install Vinyl Floor Tile after finishing operations, including painting and ceiling operations, etc; have been completed.

**1.08 MAINTENANCE**

- A. Extra Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section.
1. Quantity: Furnish quantity of floor tile equal to 5% of amount to be installed.
  2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra materials.
  3. Maintenance of finished floor covering to be conducted per Manufacturer's Maintenance Guide.

**1.09 WARRANTY**

- A. Manufacturer's Materials Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
1. One year limited warranty for manufacturing defects.
  2. Ten year Limited Wear Warranty. Flexco Vinyl Tile Flooring will not wear out for a period of ten (10) years, if installed, maintained, and used strictly in accordance with Flexco's written instructions, and under normal wear and traffic conditions for which it was designed.
  3. Lifetime warranty for Electrical Resistance.
  4. Do not use in, around or near commercial kitchens.

**PART 2 PRODUCTS**

Specifier Note: Retain article below for proprietary method specification. Add product attributes performance characteristics, material standards, and descriptions as applicable. Use of such phrases as "Or Equal" or "Or Approved Equal," or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal, and regulatory) and assignment of responsibility for determining "Or Equal" products.

**2.01 SOLID VINYL FLOOR TILE**

- A. Manufacturer: Flexco Corporation
1. Contact:  
1401 E. 6th Street  
Tuscumbia, AL 35674  
Phone: 800-633-3151  
Fax: 800-346-9075  
Web: [www.flexcofloors.com](http://www.flexcofloors.com)
- B. Test results
1. ASTM D570, Water Absorption of Plastics; < 0.15%.
  2. ASTM D2047, Static Coefficient of Friction (neolite sensors); > 0.60.
  3. ASTM D3389, Abrasion Resistance; Less than 1 gram loss.
  4. ASTM E595, Outgassing; Excellent.
  5. ASTM E648 (NFPA 253), Critical Radiant Flux; Class 1, > 1.08 W/cm<sup>2</sup>
  6. ASTM E662 (NFPA 258), Specific Optical Density of Smoke Generated by Solid Materials; Passes, < 450
  7. ASTM E1428, Staining by Streptovorticillium Reticulum (A Pink Stain Organism); 0, No stain.
  8. ASTM F925, Resistance to Chemicals; Passes, List of chemicals available.
  9. ASTM F970, Modified to 2000 psi; Passes (except WoodTones Premium Vinyl Plank).
  10. ASTM F970, Modified to 300 psi; Passes (WoodTones Premium Vinyl Plank).

11. ASTM F1515, Light Stability; Passes.
  12. ASTM F1700, Solid Vinyl Floor Tile, Class I, Type A Meets all test requirements (except WoodTones Premium Vinyl Plank).
  13. ASTM F1700, Solid Vinyl Floor Tile, Class III, Type B (WoodTones Premium Vinyl Plank).
  14. ASTM G21, Resistance of Synthetic Polymeric Materials to Fungi; Excellent resistance.
  15. FED-STD-209E, Airborne Particulate Cleanliness; Excellent (Test results available).
  16. EN425, Castor Chair Test; Passes (Test results available).
- C. Product Warranty
1. Manufacturer's one year limited warranty for manufacturing defects.
  2. Manufacturer's ten year limited wear warranty.
- D. Proprietary Product(s) (select one):
1. **Flexco Health Design Solid Vinyl Floor Tile**
    - a. Color (select one):
      - 1) Eclipse, 7; White/Eclipse, 7W; Haze, 19; White/Haze, 19W; Light Gray, 025; White/Light Gray, 025W; Delft Pansy, 035; White/Delft Pansy, 035W; Quarry Red, 041; White/Quarry Red, 041W; Sage, 050; White/Sage, 050W; Sunflower, 061; White/Sunflower, 061W; Earth, 062; White/Earth, 062W; Mediterranean Green, 063; White/Mediterranean Green, 063W.
    - b. Size (select one):
      - 1) 12" x12" (304.8mm x 304.8mm)
      - 2) 24" x 24" (609.6mm x 609.6mm) Square Edge.
      - 3) 24" x 24" (609.6mm x 609.6mm) with pre-grooved edges for Flexco Unitized Installation with heat welded seams using Flexco vinyl welding bead, 0.160" in diameter, color [insert color name and #].
      - 4) 36" x 36" (914.4mm x 914.4mm) Square Edge.
      - 5) 36" x 36" (914.4mm x 914.4mm) with pre-grooved edges for Flexco Unitized Installation with heat welded seams using Flexco vinyl welding bead, 0.160" in diameter, color [insert color name and #].
    - c. Thickness: .080": (2 mm) nominal.
  2. **Flexco Contract Design Solid Vinyl Floor Tile**
    - a. Color (select one):
      - 1) Ice Onyx, 6; Eclipse, 7; Cloud, 10; Rain Shower, 11; Fog, 12; Smoke, 13; Ice Gray, 14; Ice Blue, 16; Ice Green, 17; Ice Beige, 18; Haze, 19; Sand Storm, 20; Sun Splash, 22; Moss, 23; Spring Green, 24; Cool Cucumber, 25; Mist, 26; Clear Blue, 27; Lavender Breeze, 28; Berry Blaze, 29.
    - b. Size (select one):
      - 1) 12" x12" (304.8mm x 304.8mm)
      - 2) 24" x 24" (609.6mm x 609.6mm) Square Edge.
      - 3) 24" x 24" (609.6mm x 609.6mm) with pre-grooved edges for Flexco Unitized Installation with heat welded seams using Flexco vinyl welding bead, 0.160" in diameter, color [insert color name and #].
      - 4) 36" x 36" (914.4mm x 914.4mm) Square Edge.
      - 5) 36" x 36" (914.4mm x 914.4mm) with pre-grooved edges for Flexco Unitized Installation with heat welded seams using Flexco vinyl welding bead, 0.160" in diameter, color [insert color name and #].
    - c. Thickness: 1/8: (3.175 mm) nominal.

**3. Flexco Appeal™ Solid Vinyl Floor Tile**

- a. Color (select one):
  - 1) White/Gray, 40; Gray/Dark Gray, 42; Ivory/Buckskin, 43; Light Beige/Tan, 47; Steel Gray, 48; Brasilia Sky, 52; Laguna Green, 54; Amazon Blue, 56; Warm Gray, 65; Charcoal/Light Gray, 66; White/Blue, 69; Spruce, 70; Wood Violet, 71; Laurel, 72.
- b. Size (select one):
  - 1) 12" x 12" (304.8mm x 304.8mm)
  - 2) 24" x 24" (609.6mm x 609.6mm) Square Edge.
  - 3) 24" x 24" (609.6mm x 609.6mm) with pre-grooved edges for Flexco Unitized Installation with heat welded seams using Flexco vinyl welding bead, 0.160" in diameter, color [insert color name and #].
  - 4) 36" x 36" (914.4mm x 914.4mm) Square Edge.
  - 5) 36" x 36" (914.4mm x 914.4mm) with pre-grooved edges for Flexco Unitized Installation with heat welded seams using Flexco vinyl welding bead, 0.160" in diameter, color [insert color name and #].
- c. Thickness: 1/8: (3.175 mm) nominal.

**4. Flexco WoodTones® Premium Vinyl Wood Plank**

- a. Color (select one):
  - 1) Rich Cherry, 300; Summer Cherry, 301; Full Teak, 302; Weathered Oak, 303; Carmel Ash, 304; Honey Maple, 305; Classic Maple, 306; Vanilla Beech, 307.
- b. Size: 3" (76.2 mm) x 36" (914.4 mm) nominal.
- c. Edge Finish (select one):
  - 1) Square Edge
  - 2) Beveled Edge

**2.02 PRODUCT SUBSTITUTIONS**

- A. Substitutions: No substitutions permitted.

**PART 3 EXECUTION**

**3.01 MANUFACTURER'S INSTRUCTIONS**

- A. Compliance: Comply with manufacturer's requirements as published in Flexco installation instructions.
- B. Adhesive: Flexco 66/67 Solvent Free ESD Epoxy adhesive for all installations.

**3.02 EXAMINATION**

- A. Site Verification of Conditions: Confirm substrate conditions (which have been previously addressed under other sections) are acceptable for product installing in accordance with manufacturer's instructions.
- B. Material Inspection: In accordance with manufacturer's installing requirements, visually inspect materials prior to installing. Material with visual defects shall not be installed.

**3.03 PREPARATION**

- A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage while installing.
- B. Substrate Preparation: Prepare substrate to be free of paint, old adhesive, sealers, coatings, finishes, dirt, film-forming curing compounds, or other substances which may affect the adhesion of floor covering to the substrate.
  - 1. Concrete Substrate: Reference Standard ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. If the following test results exceed the floor covering manufacturer's limits, installing shall not commence until results conform to limits.

- a. Concrete Moisture Test: Per ASTM F1869 Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. Flexco recommends 5 Lbs or less.
  - b. Concrete Moisture Test: Per ASTM F2170 Determining Relative Humidity in Concrete Floor Slabs using *in situ* Probes. Flexco recommends 75% RH or less.
  - c. Concrete pH Test: Perform pH tests on concrete regardless of its age or grade level or history of use. Readings below 7.0 and above 10.0 can adversely affect resilient flooring or adhesives, or both.
2. Wood Substrate: Per ASTM F1482, Wood subfloor/underlayment assemblies shall be double layer construction, with a total thickness of not less than 1".
    - a. There shall be minimum 18 inches of well-ventilated air space beneath all wood subfloors.
    - b. Crawl spaces shall be insulated and protected by a moisture vapor barrier.
    - c. Do not install over "sleeper" underlayment systems or wood underlayment installed over concrete.
    - d. Do not install over Lauan panels, CCA Plywood, Fire rated plywood, plywood with knots, underlayment made of pine or other soft woods, particle board, Oriented Strand Board (OSB) Masonite™ or other hardboard underlayment, hardwood flooring, textured or cushioned flooring, treated or otherwise coated wood material or other uneven or unstable substrates.
    - e. Unacceptable surfaces shall be covered using a 1/4-inch or thicker panel underlayment per section d.
    - f. Wood Underlayments: Use only plywood underlayment that is warranted by the underlayment manufacturer for use as an underlayment for sheet vinyl floor covering in commercial applications.
    - g. Refer to Division 6 Carpentry sections for wood subfloor construction.
  3. Ceramic Tile, Cementitious Terrazzo and Metal: Refer to Flexco Conductive/Static Dissipative Product Data Sheet for installation over these substrates.
  4. Do not install over existing floor covering or over substrates not approved by manufacturer.

### 3.04 INSTALLING

- A. Refer to Flexco installation instructions for ESD Solid Vinyl tile for detailed specifications on installing.
  1. Conductive Tile grounded installation: To ground the conductive flooring to a known ground, use the 1" wide x 0.004" thick x 18" long copper foil strips, supplied by Flexco. Place approximately 9" of the strip into the adhesive while it is wet in order to achieve a 100% transfer to the copper foil backing, under the tile nearest the ground point. Recommended adhesive is also to be applied to the front/face of the copper foil strip in order to achieve a 100% transfer from the front/face of the copper strip to the tile's backing. Refer to manufacturers instructions for details regarding grounded installations.
  2. Heat welded seams [insert this section if required] (select one)
    - a. The tile shall be pre-grooved for Flexco Unitized Installation. Flexco vinyl welding beads, 0.160" in diameter, shall be installed according to manufacturer's instructions.
    - b. Seams shall be grooved to accept Flexco vinyl welding beads, 0.160" in diameter, which shall be installed according to manufacturer's instructions.
    - c. Do not heat-weld for first 48 hours.
  3. Flash Cove Procedure
    - a. Follow manufacturer's recommended procedures for flash cove installation.
    - b. Install Flexco® #195 Cove Stick Filler at the wall and floor junction.
    - c. Install Flexco® #197 Resilient Cove Cap on the wall at (insert desired height).
    - d. Install metal inside and outside corners, to same height as cove cap.
    - e. Butterfly corners can also be installed based on installer expertise.
  4. Finish Floor Covering Designs: As selected by Architect.

5. Accessories: Architect shall specify manufacturers' color coordinated accessories as required, including (but not limited to) resilient wall base, stair nosing, reducers or other edgings, welding rods for heat welded seams.

**3.05 FIELD QUALITY REQUIREMENTS**

- A. Manufacturer's Field Services: Upon Owner's request and with minimum 72 hours notice, provide manufacturer's field service consisting of product use recommendations and periodic site visits to confirm installing of product is in accordance with manufacturer's instructions.
- B. Site Visits: (Specify number and duration of periodic site visits).

**3.06 PROTECTION**

- A. Protection: Protect installed product and finish surfaces from damage during construction. Remove and legally dispose of protective covering at time of substantial completion.
- B. No heat welding for first 48 hours.
- C. Restrict foot traffic from new floor covering for first 48 hours.
- D. Restrict furniture, fixtures and rolling traffic for first 72 hours.
- E. Restrict cleaning/buffing for first 72 hours.

**3.07 INITIAL MAINTENANCE PROCEDURES**

- A. General: Include in contract sum cost for initial maintenance procedures and execution by professional maintenance personnel after floor covering has been installed for 72 hours as specified in the Flexco maintenance instructions.

**3.08 CLEANING**

- A. Cleaning: See Flexco maintenance instructions. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of.
- B. Floor finishes: Do not use floor finishes, sealers or waxes of any kind, as they may form an insulating layer on the tile surface and adversely affect the performance of the product.

**3.09 TESTING FOR ELECTRICAL RESISTANCE**

- A. Flexco will test Conductive/Static Dissipative Solid Vinyl Floor Tile installations upon request for electrical resistance approximately 7 days after the installation. The adhesive must be allowed to properly cure and the flooring system to stabilize to the ambient conditions. The electrical resistance will be tested according to ASTM F150, EOS/ESD S7.1, NFPA 99, and UL 779.
  1. Test will be conducted at 10 volts for Conductive, point to point and point to ground. Testing will also be conducted according to any special test method or procedure as specified herein.
  2. Test will be conducted at 100 volts for Static Dissipative, point to point and point to ground. Testing will also be conducted according to any special test method or procedure as specified herein.