

SECTION 09 66 16 — TERRAZZO FLOOR TILE

PART 1 — GENERAL

- 1.1 Related Documents: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.
- 1.2 Description of Work: Provide all labor, materials, equipment and services required for complete installation of all terrazzo floor tile indicated on Drawings and specified herein.
- 1.3 Related Work Specified Elsewhere:
 - A. Section 01 21 00 – Allowances.
 - B. Section 03 30 00 – Cast-in-Place Concrete.
- 1.4 Quality Assurance:
 - A. Provide Standard: The material is to comply with the following standards and provide the minimum results shown.
 1. Abrasion Resistance: ASTM C-501 model 503 Tabor Abraser weight loss – 0.3437 gr. w/CS-17 wheels, 1000 cycles, 2/1000 gr. load wear loss – 0.0008 in.
 2. Compressive Strength: ASTM D-695 106,600# applied over 12,766 PSI no Fracture or effect 15/4 sq. in.
 3. Flame Spread: E84-81a 20.
 4. Fuel Contribution: E84-81a 10.
 5. Smoke Density: E84-81a 180.
 - B. Application Setting Materials and all accessory items are to be materials recommended by the manufacturer of terrazzo floor tile.
 - C. Terrazzo Floor Tile Contractor's Qualifications: The qualifications of the Terrazzo Floor Tile Contractor for this project shall be as follows:
 1. The Terrazzo Floor Tile Contractor shall have been in the terrazzo contracting business for the last three (3) consecutive years and under their current corporation name with essentially the same corporate officers.
 2. The Terrazzo Floor Tile Contractor shall have successfully completed at least three (3) projects of comparable size and scope.
 3. The Terrazzo Floor Tile Contractor's main office shall be located within 120 miles driving distance of the project unless pre-approval has been issued in writing by the Owner and Architect.
 4. The Terrazzo Floor Tile Contractor shall have an active license by the State of Alabama as a Subcontractor with a specialty in BC-S: Tile.
 - D. The Terrazzo Floor Tile Contractor shall provide substantiating proof of these requirements to bidding General Contractors.
- 1.5 Submittals:
 - A. Product Data: Submit four (4) copies of manufacturer's product literature including technical information and installation instructions for each type of Floor Tile, accessory, and adhesive material.

- B. Shop Drawings: Submit four (4) blue prints of terrazzo floor tile work. Shop Drawings are to be drawn to 1/2" = 1'-0" scale or larger and are to show plans for layout work and details of joints and edge conditions.
 - C. Samples: Submit three (3) samples of each pattern and color of terrazzo floor tile required, not less than 8" x 10". Samples are to be reviewed for color, pattern and texture only.
 - D. Maintenance Instructions: Submit three (3) copies of written instructions for recommended periodic maintenance of terrazzo floor tile.
- 1.6 Product Delivery Storage and Handling:
- A. Material is to be delivered to the job site in manufacturer's original unopened containers.
 - B. Store materials inside, undercover and protected from moisture and edge damage.
 - C. Handle all material to prevent damage to edges and corners.
- 1.7 Job Conditions:
- A. Interior: Do not begin terrazzo floor tile installation until the building has been held to a minimum temperature of 70°F for five (5) full days and the entire quantity of terrazzo floor tile mortar and adhesive has been stored inside the building for three (3) days. A minimum of 70°F must be maintained throughout the installation period and for two (2) days after the installation is complete.

PART 2 — PRODUCTS

- 2.1 Terrazzo Floor Tile: Shall be Terrazzo 500 Series Floor Tile as manufactured by Surface Elements, Inc., P.O. Box 82, Loretto, TN 38469, Phone: (931) 845-3434, Fax: (931) 845-3444, Website: www.terrazzo.com.
- A. Raw Material: Terrazzo Floor Tile to be manufactured of Natural Stone, with a Resin Binding Matrix and a high density structural core.
 - B. Size: Terrazzo Floor Tile to be 5/16" nominal thickness and 47-3/4" L x 47-3/4" W. Terrazzo Floor Tile to be 5/16" nominal thickness and 95-3/4" L x 47-3/4" W.
 - C. Color: Custom Blend #1309306.
 - D. Joint Filler: Shall be Metazzio Zinc, 1/4" W by Surface Elements, Inc.
 - E. Terrazzo Wall Base: Shall be Terrazzo 500 Series 5-3/4" high wall base with cove.
- 2.2 Allowance for School Crest: Include in the Base Bid an allowance in the amount of One Thousand Five Hundred Dollars (\$1,500.00) for the fabrication of the blue and white Florence Terrazzo crest, water saw cut, complete with installation drawings and all parts numbered for installation. The crest is indicated on Drawing A-1.3 – First Floor Finish Plan in Lobby 103.
- 2.3 Control and Expansion Joints: Shall be as manufactured by Schluter Systems, L.P., 194 Pleasant Ridge Road, Plattsburgh, NY 12901-5841. ASD. Tel: (800) 472-4588. Fax (800) 477-9783. E-mail: specassist@schluter.com. Web: www.schluter.com and/or Schluter Systems (Canada) Inc., 21100 Chemin Ste-Marie, Ste-Anne-de-Bellevue, QC H9X 3Y8. Tel: (800) 667-8746. Fax (514) 336-2410. E-mail: specassist@schluter.com. Web: www.schluter.com.
- A. Control Joints: Schluter-DILEX-EDP, Item No. EDP100.

1. Description: Stainless steel profile with integrated trapezoid-perforated anchoring legs connected by a 15/32 inch (12 mm) wide tongue-and-groove joint that forms the visible surface.
 2. Material and Finish: E – Stainless Steel Type 304 = V2A.
 3. Profile Height: 3/8 inch (10 mm).
- B. Expansion Joints: Schluter-DILEX-BT, Item No. AEBT100.
1. Description: Extruded satin anodized aluminum profile with integrated trapezoid-perforated anchoring legs, connected by a 1-3/16 inch (30 mm) wide sliding telescopic center section with two interconnected ball-and-socket joints, which together form the visible surface.
 2. Profile Height: 3/8 inch (10 mm).
- C. Cove Trim: Schluter DILEX-AHK, Item No. AHK1S100AE.
1. Description: Anodized aluminum profile with integrated trapezoid-perforated anchoring legs, connected at a 90-degree angle by a cove-shaped section with 3/8 inch (10 mm) radius that forms the visible surface.
 2. Corners: Provide matching inside and outside corners.
 3. Material and Finish: AE – Satin Anodized Aluminum.
 4. Profile Height: 3/8 inch (10 mm).
- D. Transition Joints: Schluter Reno-Ramp, AERP 100 B65.
1. Description: Anodized aluminum with trapezoid-perforated anchoring leg. A sloped transition that terminates at the height of the tile edge.
 2. Material and Finish: Satin anodized aluminum (AE).
 3. Profile Height: 3/8" (10 mm).
- 2.4 Surface Preparation Materials: Installation materials for Terrazzo Floor Tile products shall be as supplied by Laticrete International, Inc., Bethany, CT USA. Telephone: 1-800-243-4788 or (203) 393-0010, Fax: (203) 393-1684, Email: technicalservices@laticrete.com Internet: www.laticrete.com.
- A. Self-Leveling Underlayment: Laticrete 86 LatiLevel™ self leveling underlayment (up to 1-1/2" (37 mm) thickness).
 - B. Admix and Primer: Laticrete 816 LatiPatch™ to repair and flash patch concrete floors up to 1/2" (12 mm) thickness per lift.
 - C. Thin Set Mortar: Laticrete 254 Platinum multipurpose thin set mortar.
 - D. Waterproofing and Crack Suppression Membrane: Laticrete HydroBan™.
 - E. Grout: Shall be one of the following:
 1. Laticrete SpectraLock Pro Grout
 2. Laticrete PermaColor™ Grout.
 3. Laticrete 1600 Unsanded Grout gauged with Laticrete 1776 Grout Enhancer.
 - F. Silicone Sealants: Laticrete Latasil™ Silicone Sealant.

PART 3 — EXECUTION

3.1 General Preparation:

- A. Building temperature of 70°F to have been maintained for five (5) days prior to the start of installation and all material is to have been acclimatized in the building for three (3) days.

3.2 Substrate Preparation:

- A. Concrete:

1. The concrete or concrete block substrate will have been placed and finished for a minimum of 28 days prior to beginning installation and must have a smooth, hard finish.
2. Prior to commencing the installation, the Contractor shall examine the areas to be covered and advise the General Contractor and Architect of any existing conditions or surface combination which will require correction before work commences. Before starting, surface to be covered shall be cleaned to remove curing compounds, sealers, soil, mortar, dirt, dust, etc. Curing compounds and sealers shall be removed by "bead-blasting" grit/sand blasting or diamond wheel grinder with dustless vacuum attachment or equivalent methods of mechanical "scarifying". After removal of the curing compounds or sealers all rough, uneven or "out-of-plumb" surfaces shall be made "plumb and true" to within 1/8" in 10' (3 mm in 3 m) and 1/16" in 1'-0" (1.5mm in 300mm) using surface preparation materials specified in this Specification. Dry or dusty concrete or terrazzo surfaces shall be wet down or washed and excess water removed just prior to the application of the adhesive mortar.
3. Installation of Crack Suppression Membrane: Crack isolation membrane shall be installed before tile is installed over all hairline cracks ($\leq 1/8"$ or 3mm) in surfaces to receive new tile work.

3.3 Installation – General:

- A. All installation to be in strict accordance with manufacturer's printed installation instructions.
- B. All cutting of terrazzo floor tile to be accomplished with an abrasive or diamond blade in a rotary saw or with a carborundum coated jig saw blade.
- C. All holes or circles to be cut using carbide tipped drill or diamond hole saw.
- D. Control Joints to be installed when crossing expansion joints in substrate.

3.4 Installation – Adhesive:

- A. All installation to be in strict accordance with the manufacturer's printed installation instructions.
- B. Mixing: Follow the mixing and installation instructions for each of the products used by consulting the product data sheet, installation instructions on the product packaging, how-to-install instructions and the complete specification and details found on the manufacturer's website.

3.5 Installation of Tile by Thin Set Method:

- A. All installation to be in strict accordance with the manufacturer's printed installation instructions.
- B. The thin set adhesive shall be applied with a notched trowel using a scraping motion to work the material into good contact with the surface to be covered. A trowel having notches large enough to insure "full bedding" of the tiles is recommended. Only as much adhesive shall be applied as can be covered within 10-15 minutes, or while adhesive surface is still wet and tacky. When installing terrazzo large format tile, a small quantity of adhesive shall be applied to the back of each tile. Tile shall then be set in place and pressed firmly to insure 100% full bedding and a true surface. Tile shall be aligned to show uniform joints and then allow to set until firm. Excess adhesive must be cleaned from the surface of the tile with a wet cloth or sponge while adhesive is fresh.

- 3.6 Installation of Tile By Spot Bond Method (Interior Vertical Applications Only):
- A. Store epoxy resins at room temperature 70° F (21°C) for 24 hours before using.
 - B. All substrates must be clean when application of epoxy adhesive is made.
 - C. Clean the back of the tile to receive the epoxy adhesive.
 - D. Using a damp sponge (not wet), wipe the tile to remove any particles or remaining dust to ensure a clean, direct bond and that all ground material is removed. Wipe dry with a clean cloth, then apply epoxy adhesive. Apply dabs evenly distributed on back of the tile; 5 dabs minimum, 1 in each corner and 1 in center. Cover at least 10% of the facial area of each piece. Finish dab thickness must be a minimum of 1/8" (3mm).
 - E. After application of epoxy adhesive onto the tile, place tile onto substrate and adjust for plumb and level.
- 3.7 Grouting and Pointing Joints:
- A. Follow the mixing and installation instructions contained in the product packaging, data sheets and how to install instructions for the grouting product that will be utilized.
 - B. Joining edges of Terrazzo, Metazzo and all Metal Trim Edges shall be filled with Unsanded Grout matching the Terrazzo binding resin color. All excess grout to be removed during application of the grout.
 - C. Joints shall be packed full and free of all voids and pits. (Tool or rake as specified).
 - D. Excess grout shall be cleaned from the surface as the work progresses, while grout is fresh and before it hardens.
 - E. The day after installation grout film or haze shall be removed using a neutral Ph detergent solution. Epoxy grout haze should be removed the same day as indicated in the printed product instructions. No acids should be used for cleaning tile work.
- 3.8 Expansion and Control Joints:
- A. Use manufacturer's recommended silicone sealant where a flexible silicone sealant is required and for use in movement joints. Follow industry guidelines for the design, placement, and construct of movement joints. Reference Tile Council of North America's Guidelines EJ-171 and the American National Standard Specifications for the Installation of Ceramic Tile A108.01 – 3.7 Requirements for movement joints.
- 3.9 Clean Up and Protection:
- A. Remove all excess and scrap materials from the job immediately after installation is complete.
 - B. Provide Kraft paper covering over traffic areas until completion for project.
 - C. Remove any excess adhesive or grout from the terrazzo floor tile immediately after it appears on the surface.

END OF SECTION 09 66 16