

## **SECTION 09 30 00 - TILE**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. Work Included: Provide products in accordance with the Contract Documents. The Contract Documents are as defined in the "Agreement". The "General Conditions Governing All Contracts" shall apply to all work under the Contract. The Work of this Section shall include but not be limited to the following:
  - 1. Glazed and unglazed wall tile.
  - 2. Unglazed ceramic floor tile.... Quarry tile, paver tile
  - 3. Special-purpose tile
  - 4. Stone thresholds installed as part of tile installations
  - 3. Trim units matching field tile.
  - 4. Membrane waterproofing, mortars, grouts and similar setting accessories.
- B. Related Sections:
  - 1. Section 06 10 00 - Rough Carpentry.
  - 2. Section 07 90 00 - Joint Sealers.

#### **1.02 QUALITY ASSURANCE**

- A. Source of Materials: Provide materials obtained from one source for each type and color of tile, grout, and setting materials. Provide tile from same run to assure color consistency.
- B. Installer Qualifications: Engage an experienced firm hat has recently completed Tile installations similar in cost, material, design, and extent to that indicated by this section and whose work has resulted in construction with a record of successful in-service performance.
- C. Mockups: Before installing tile, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for completed Work.
  - 1. Install tile work mock-up in rooms selected.
  - 2. Notify Architect 7 days in advance of the dates and times when mockup section will be constructed.
  - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
  - 4. Obtain approval of mockups before proceeding with final unit of Work.
  - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
    - a. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.

### 1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data and installation instructions for materials required, except bulk materials.
  - 1. Each tile type.
  - 2. Setting and grouting materials.
  - 3. Waterproof membrane materials.
- B. Shop Drawings: Submit shop drawings indicating tile patterns and locations and widths of control joints in tile surfaces.
- C. Samples for Initial Selection: Submit actual tiles showing full range of colors, textures and patterns available. Include samples of grout.
- D. Samples for Verification Purposes: Submit the following:
  - 1. Samples for each type of tile and for each color, type and texture and finish required, not less than 12 inches square, mounted and grouted.
  - 2. Full size samples for each type of trim for each type and color.
  - 3. Samples for verification purposes in the form of 12-inch-square samples of each type of stone and tile required, showing full range of colors, textures, finishes, and other variations related to visual characteristics to be expected in the finished Work.
    - a. Prepare samples from same material to be used for the Work.
- E. Certification: Furnish Master Grade Certificate for each shipment and type of tile, signed by manufacturer and Installer.
- F. Material Certification: Supplier's/manufacturer's written certification that terrazzo materials provided meet or exceed specified NTMA properties.
- G. Reports: Submit certified test reports from a qualified laboratory to show compliance of tile and tile setting products with requirements specified. Include laboratory's interpretation of test results.
- H. Provide certification by manufacturer that products supplied for tile installation and cleaning comply with regulations controlling use of volatile organic compounds (VOC's).

### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Prevent damage or contamination to materials by water, freezing or other causes.

### 1.05 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.
- B. Vent temporary heaters to exterior to prevent damage to tile work from carbon dioxide buildup.
- C. Maintain temperatures at not less than 50 deg. F in tiled areas during and for 7 days after installation, unless otherwise required by referenced installation standard or manufacturer's instructions.

## 1.06 WARRANTY

- A. General: Submit warranties to repair or replace defective ceramic tile materials and workmanship for a period of not less than 2 years after date of substantial completion.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, provide products as manufactured by one of the following as scheduled, or approved equal:

1. Nemo Tile

Contact: Priscilla Bissi  
A&D Account Manager  
212.477.1425 ext. 240  
(c) 201.615.8534  
[pbissi@nemotile.com](mailto:pbissi@nemotile.com)

2. Landmark Ceramics

Contact: Mahawa Diakite  
Architectural Representative  
1427 N. Main Street, Mount Pleasant, TN 38474  
T: 931-325-5700 | F: 914-422-0069  
(c) 615.305.7530  
[M.diakite@lcusa.com](mailto:M.diakite@lcusa.com)

5. Or Approved Equal

### 2.02 PRODUCTS, GENERAL

- A. ANSI Standard for Ceramic Tile: Comply with ANSI A137.1 "American National Standard Specifications for Ceramic Tile" for tile indicated. Comply with "Standard Grade" requirements.
- B. ANSI Standard for Tile Installation Materials: Comply with ANSI standard referenced with materials for setting and grouting.
- C. Sizes, Colors, Textures and Patterns: Provide tile, grout and other products of colors, textures or other qualities, as selected by Architect from manufacturer's standards.
1. Provide tile trim and grout of color and finish as selected by Architect.
- a. Grout Color Schedule: TBD
- D. Mounting: Where factory-mounted tile is required, provide back- or edge-mounted tile assemblies as standard with manufacturer, and as recommended by manufacturer for installation in wet areas.

2.03 TILE PRODUCTS (As Scheduled)

- A. Provide tile of manufacturer and in size indicated in Wall and Floor Finish Schedules on Drawings:

**MUSIC BUILDING:**

**TYPE T-100**

Porcelain Tile (accent walls Women's Restroom)  
LANDMARK PORTUGUESE BLACK & WHITE, 12"X24"

**TYPE T-101**

Porcelain Tile (floor in All Gender Restroom and accent walls in Men's & All Gender Restrooms)  
LANDMARK PORTUGUESE ECLECTIC, 12"X24"

**TYPE T-102**

Porcelain Tile (floors and some walls)  
LANDMARK EXPLORE STAR GRAY, 12"X24"

**TYPE T-103**

Porcelain Tile (floors and some walls)  
LANDMARK ATTITUDE LIGHT WHITE, 12"X24"

**TYPE T-104**

Ceramic Tile (accent walls in Women's Restroom)  
NEMO TILE BOND COTTON Wall Tile, 2.5"X8"

**TYPE T-105**

Ceramic Tile (accent walls in Women's Restroom)  
NEMO TILE BOND ONYX Wall Tile, 2.5"X8"

**TYPE T-106**

Ceramic Tile (accent walls in Women's Restroom)  
NEMO TILE REGOLO, LUNARIA, 3"X12"

**DANCE BUILDING:**

**TYPE T-110**

Ceramic Tile (accent walls)  
NEMO TILE HAWTHORN CLOUD Wall Tile, 8"X20"

**TYPE T-113**

Ceramic Tile (partition wall)  
NEMO TILE REGOLO, MATTONE TATAMI, 3"X12"

**TYPE T-114**

Porcelain Tile (floors)  
LANDMARK JOURNEY NATURAL IVORY, 24"X24"

**TYPE T-115**

Porcelain Tile (some walls)  
LANDMARK JOURNEY NATURAL IVORY, 12"X24"

**PHYSICAL EDUCATION BUILDING:**

**TYPE T-120**

Porcelain Tile (walls)  
LANDMARK CHARME VEINED STATUTARIO, 12"X24"

**TYPE T-122**

Ceramic Tile (accent walls in Women's & All Gender Restroom)  
NEMO TILE BOND OPAL, 2.5"X8", Gloss

**TYPE T-123**

Ceramic Tile (accent walls Men's Restroom)  
NEMO TILE BOND PEWTER, 2.5"X8", Gloss

**TYPE T-124**

Porcelain Tile (floors)  
LANDMARK MADE IN FREEDOM WHITE, 24"X24"

**TYPE T-125**

Porcelain Tile (walls)  
LANDMARK MADE IN FREEDOM WHITE, 12"X24"

**LIBRARY BUILDING:**

**TYPE T-130**

Porcelain Tile (floors)  
LANDMARK JOURNEY NATURAL IVORY, 24"X24"

**TYPE T-131**

Porcelain Tile (walls)  
LANDMARK JOURNEY NATURAL IVORY, 12"X24"

**TYPE T-132**

Ceramic Tile (accent walls in Men's Restroom)  
NEMO TILE HAWTHORN CELADON, 8"X20", Gloss

**TYPE T-133**

Ceramic Tile (walls in Women's Restroom)  
NEMO TILE HAWTHORN SKY, 8"X20", Gloss

**TYPE T-134**

Ceramic Tile (walls)  
NEMO TILE BOND COTTON, 2.5"X8", Gloss

- B. Trims: Provide matching trim tiles for corners (inside and outside), terminations, transitions, corners and similar locations matching the field tiles as acceptable to the Architect.
  - 1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.
  - 2. Shapes: As follows, selected from manufacturer's standard shapes:
    - a. Base for Thin-Set Mortar Installations: Straight.
    - b. Internal Corners: Field-butt square corners, except with coved base and cap angle pieces designed to member with stretcher shapes.
    - c. Outside edges, top edges of field cut base and other miscellaneous exposed edges:  
Metal strip:
      - 1. ANI-100 Schluter Jolly, Stainless Steel finish
      - 2. Jolly tile where available and indicated in Finish Legend on sheet A-601
      - 2. Or Equal Approved

#### 2.04 STONE THRESHOLDS

- A. General: Provide stone thresholds that are free of cracks, seams, and starts impairing their structural integrity or function, and are from a single quarry for each type, variety, color, and quality of stone specified.
  - 1. Size and Profile and Location: As indicated or required to provide transition between finished surfaces of ceramic tile and that of adjacent finished flooring.
  - 2. Type: ST-1, honed; Caesarstone 4141 Misty Carrera, honed finish, ADA compliant  
Or Approved Equal.

#### 2.05 MEMBRANE WATERPROOFING

- A. Latex Rubber Waterproofing: Manufacturer's standard factory- prepackaged, job-mixed, proprietary two-part formulation consisting of liquid latex rubber and powder for trowel application and glass fiber fabric reinforcing.
- B. Products: Subject to compliance with requirements, provide "Laticrete 9235 Waterproof Membrane"; Laticrete International Inc.

#### 2.06 SETTING MATERIALS

- A. Latex Thin-Set Mortar Additive mixed with Crete Filler Powder and Grout & Mortar Admix: Comply with ANSI A118.4, with prepackaged latex additive. Added at job site to dry mortar mix.
  - 1. Physical Properties:
    - a. Wet Density: (ASTM C905-79); 102 pounds per cubic feet.
    - b. Pot Life: (LIL 1011-92); 4-5 hours.
    - c. Open Time: (ANSI A118.4-1992; F-4.4); 50 minutes.
    - d. Tensile Adhesion Strength: (BS 5980: 1980 Class AA; 14 days); 355 pounds.
    - e. Shear Adhesion Strength: (BS 5980: 1980 Class AA; 14 days); 5126 pounds.
    - f. Shear Bond Strength: (ANSI A118.4-1992; F-5.2.4); 500 pounds per square inch.
    - g. Compressive Strength: (ANSI A118.4-1992; F-6); 5000 pounds per square inch.
    - h. Hardness: (ASTM D2240; D-Scale; 72 hours); 50-60.
    - i. Linear Coefficient of Thermal Expansion: (ANSI C531-81); 65 x 0.0000001 Fahrenheit.

j. Service Rating: (ASTM C627-87; TCA Service Rating); Cycle 1-14 Extra Heavy.

- B. Product: Subject to compliance with requirements, provide "Laticrete 4237 latex thin-set mortar additive mixed with Laticrete 211 Crete Filler Powder and Laticrete 3701 Grout and Mortar Admix"; Laticrete International Inc., Atlas Minerals & Chemicals, Inc., DAP, Inc., Mapei Corporation or approved equal.

## 2.07 GROUTING MATERIALS

- A. Latex-Portland Cement Grout Consisting of a Carefully Blended Mix of Portland Cement, Graded Aggregates and Color-fast Pigments: Provide product complying with ANSI A118.6, and of color scheduled.

### 1. Physical Properties:

- a. Flexural Strength: (ANSI A118.7): 1250 psi.
- b. Tensile Strength (ANSI A118.7): 510 psi.
- c. Compressive Strength: (ANSI A118.7); 3500 pounds per square inch.
- d. Water Absorption: (ANSI A118.7): < 5%.

2. Basis of Design, Product: Subject to compliance with requirements, provide "Laticrete Permacolor Select Grout" or approved equal.

- B. Epoxy Grout (Commercial) (for floors): Non-toxic, non-flammable, non-hazardous during storage, mixing, application and when cured. Provide product complying with ANSI A118.7, and of color scheduled.

### 1. Physical Properties:

- b. Shear Bond Strength: (ANSI A118.3): 1100 psi.
- c. Tensile Strength (ANSI A118.3): 1100 psi.
- d. Compressive Strength: (ANSI A118.3); 3800 pounds per square inch.
- e. Water Absorption: (ANSI A118.3): < 0.05%.

2. Basis of Design, Product: Subject to compliance with requirements, provide "Laticrete Spectralock Pro Premium Grout" or approved equal.

## 2.08 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

- B. Tile Cleaner: Product acceptable to manufacturers of tile and grout and recommended by National Tile Promotion Federation, 112 North Alfred St., Alexandria, VA 22134 or Ceramic Tile Institute, 700 N. Virgil Ave., Los Angeles, CA 90029.

## 2.09 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and manufacturers recommendations for accurately proportioning materials and mixing procedures needed to produce mortars and grouts of uniform quality for optimum performance.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine surfaces to receive tile work and verify working conditions. Do not proceed with tile work until surfaces and conditions comply with requirements of referenced tile installation standard.

#### **3.02 INSTALLATION, GENERAL**

- A. ANSI Tile Installation Standard: Comply with applicable parts of ANSI 108 series of standards included under "American National Standard Specifications for the Installation of Ceramic Tile".
- B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA methods indicated or, if not otherwise indicated, as applicable to installation conditions shown.
- C. Extent: Extend tile work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disrupting pattern or joint alignments.
- D. Fitting: Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind exposed cut edges of tile for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures and other penetrations so that plates, collars, or covers overlap tile.
- E. Jointing Pattern: Lay tile in grid pattern. Align joints when tiles on floor, base, walls and trim are same size. Layout tile work and center tile fields in both directions in each space or on each wall area, unless otherwise shown. Adjust to minimize tile cutting. Provide uniform joints.
  - 1. Make joints between mounted tile sheets same width as joints within tile sheets so that extent of each sheet is not apparent.
- F. Expansion Joints: Locate expansion joints and other sealant filled joints where indicated. Do not saw cut joints.
- G. Grout: Grout tile to comply with ANSI A108.10.

#### **3.03 MEMBRANE WATERPROOFING**

- A. Install waterproofing in compliance with waterproofing manufacturer's instructions to produce a waterproof membrane of uniform thickness bonded securely to substrate. Turn waterproofing membrane up walls a minimum of 4 inches above finish floor surface.
- B. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

#### **3.04 FLOOR INSTALLATION METHODS**

- A. Ceramic Floor Tile: Install tile to comply with requirements indicated below for setting bed methods, TCA installation methods related to types of subfloor construction, and grout types:
  - 1. Latex-Portland Cement Mortar: ANSI A108.5; for tile floors unless otherwise indicated.



- a. Waterproof Membrane, Interior; Thin-Set: TCA F122; latex-portland cement bond coat with waterproof membrane over a leveling compound and concrete subfloor.
- b. Grout: Latex-portland cement.

- B. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile.

### 3.05 WALL TILE INSTALLATION METHODS

- A. Install types of wall tile designated to comply with requirements indicated below for setting-bed methods, and TCA installation methods related to subsurface and grout.
- B. Latex-Portland Cement Mortar: ANSI A108.5.
  - 1. Toilet Area: Cement (Backer) Mortar Units, Interior: TCA W244.

### 3.06 CLEANING AND PROTECTION

- A. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
  - 1. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions, but not sooner than 14 days after installation. Protect metal and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
  - 2. Protect tile from damage and wear during construction operation.
- B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective tile work.
- C. Protection: Protect installed tile work with Kraft paper or other approved heavy covering during construction period to prevent staining, damage and wear.
- D. Prohibit foot and wheel traffic from using tiled floors for at least 7 days after grouting is completed.

### 3.07 TILE SCHEDULE

- A. Refer to finish Schedule on Contract Drawings for product, manufacture, sizes and color selection.

END OF SECTION