

**SECTION 093000
TILING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Tile for shower receptors.
- D. Coated glass mat backer board as tile substrate.
- E. Ceramic accessories.
- F. Ceramic trim.
- G. Non-ceramic trim.

1.02 RELATED REQUIREMENTS

- A. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.03 REFERENCE STANDARDS

- A. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar; 2020.
- B. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2024.
- C. ANSI A118.1 - American National Standard Specifications for Dry-Set Cement Mortar; 2023.
- D. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; 2021.
- E. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2023.
- F. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 2019.
- G. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2019.
- H. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2023.
- I. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014 (Reaffirmed 2024).
- J. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.
- K. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials; 2021.
- L. ASTM C373 - Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tiles and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products; 2018 (Reapproved 2023).
- M. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2024.
- N. TCNA (HB-GP) - Handbook for Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs Installation; 2025-2026.

- O. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2026.

1.04 SUBMITTALS

- A. See Section #013300 - Submittal procedures for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Installer's qualification statement.
- D. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- B. Installer Qualifications:
 - 1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.
- B. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.07 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature above 50 degrees F (10 degrees C) and below 100 degrees F (38 degrees C) during installation and curing of setting materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Tile:
 - 1. Trinity Tile: www.trinitytile.com.
- B. Setting Materials:
 - 1. LATICRETE International, Inc: www.laticrete.com/#sle.
 - 2. Mapei Corporation: www.mapei.com/#sle.
 - 3. Schluter-Systems: www.schluter.com/#sle.
 - 4. Source Limitations: Furnish products produced by single manufacturer and obtained from single supplier.
- C. Grout:
 - 1. Custom Building Products: www.custombuildingproducts.com/#sle.
 - 2. LATICRETE International, Inc: www.laticrete.com/#sle.
 - 3. Mapei Corporation: www.mapei.com/#sle.
 - 4. Source Limitations: Furnish products produced by single manufacturer and obtained from single supplier.

2.02 PERFORMANCE REQUIREMENTS

- A. Floor Tile: Provide tile for flooring applications with minimum wet Dynamic Coefficient of Friction (DCOF) of 0.42 when tested in accordance with ANSI A326.3.

2.03 TILE

- A. Porcelain Tile: ANSI A137.1 standard grade.
 - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
 - 2. Size: Varies see finish plan schedule.
 - 3. Thickness: Varies see finish plan schedule.

4. Edges: Square.
5. Color: As indicated on drawings.
6. Trim Units: Matching bullnose, cove base, and cove shapes in sizes coordinated with field tile.
7. Products:
 - a. Trinity Tile: www.Trinity Tile.com.

2.04 TRIM AND ACCESSORIES

- A. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile; same manufacturer as tile.
- B. Pre-Formed Accessories To Be Covered with Tile: High density expanded polystyrene with ANSI A118.10 waterproofing finish or membrane.
 1. Products:
 - a. Schluter-Systems; KERDI: www.schluter.com/#sle.
- C. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
 1. Manufacturers: Same as for tile.
- D. Non-Ceramic Trim: Brushed stainless steel, style and dimensions to suit application, set with tile mortar or adhesive.
 1. Applications:
 - a. Inside and outside wall corners.
 - b. Floor-to-wall joints.
 2. Products:
 - a. Schluter-Systems; Rondec: www.schluter.com/#sle.
 - b. SChluter-Systems; Dilex: www.schluter.com.

2.05 SETTING MATERIALS

- A. Provide setting and grout materials from same manufacturer.
- B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.
 1. Applications: Use where large and heavy tile mortar is indicated on drawings.
 2. Products:
 - a. ARDEX Engineered Cements; ARDEX X 5: www.ardexamericas.com/#sle.
 - b. Custom Building Products; ProLite Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer: www.custombuildingproducts.com/#sle.
 - c. LATICRETE International, Inc; TRI-LITE: www.laticrete.com/#sle.
 - d. Mapei Corporation; Adesilex P10 Mosaic & Glass Tile: www.mapei.com/#sle.

2.06 GROUTS

- A. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
 1. Applications: Use where indicated on drawings and where no other type of grout is indicated.
 2. Use sanded grout for joints 1/8 inch (3.2 mm) wide and larger; use unsanded grout for joints less than 1/8 inch (3.2 mm) wide.
 3. Color: As selected by Architect from manufacturer's full line.
 4. Products:
 - a. ARDEX Engineered Cements; ARDEX FL: www.ardexamericas.com/#sle.
 - b. Custom Building Products; Prism Color Consistent Grout: www.custombuildingproducts.com/#sle.
 - c. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
 - d. Mapei Corporation; Ultracolor Plus FA: www.mapei.com/#sle.

2.07 MAINTENANCE MATERIALS

- A. Tile Sealant: Gunnable, silicone, siliconized acrylic, modified silane polymer, or urethane sealant; moisture- and mildew-resistant type.
 - 1. Applications: Between tile and plumbing fixtures.
 - 2. Color: As selected by Architect from manufacturer's full line.
 - 3. Products:
 - a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com/#sle.
 - b. Custom Building Products; Commercial 100% Silicone Caulk: www.custombuildingproducts.com/#sle.
 - c. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com/#sle.
 - d. Mapei Corporation; Mapesil T Plus: www.mapei.com/#sle.
- B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
 - 1. Composition: Water-based colorless silicone.
 - 2. Products:
 - a. STONETECH, a Division of LATICRETE International, Inc; STONETECH Heavy Duty Grout Sealer: www.laticrete.com/#sle.
 - b. Merkrete, by Parex USA, Inc; Merkrete Revive: www.merkrete.com/#sle.

2.08 ACCESSORY MATERIALS

- A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
 - 1. Crack Resistance: No failure at 1/8 inch (3.2 mm) gap, minimum.
- B. Backer Board: Coated glass mat type complying with ASTM C1178/C1178M; inorganic fiberglass mat on both surfaces and integral acrylic coating vapor retarder.
- C. Backer Board: High-density polystyrene with waterproof membrane and facer on both sides and compatible alkaline-resistant joint tape.
 - 1. Thickness: 1/2 inch (12.7 mm).
 - 2. Products:
 - a. Schluter-Systems - Kerdi Board.
- D. Mesh Tape: 2 inch (50 mm) wide self-adhesive fiberglass mesh tape.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive tile.
- B. Verify wall surfaces are smooth and flat within tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing for moisture and alkalinity (pH).
 - 1. Obtain instructions if test results are not within limits recommended by tiling material manufacturer and setting material manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Vacuum clean surfaces and damp clean.
- B. Seal substrate surface cracks with filler.
- C. Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to feather edge.

3.03 INSTALLATION - GENERAL

- A. Install tile and grout in accordance with applicable requirements of ANSI A108/A118/A136, manufacturer's instructions, and TCNA (HB) or TCNA (HB-GP) recommendations, as applicable.
- B. Lay tile to pattern indicated on drawings. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
- E. Form internal angles square and external angles bullnosed.
- F. Install ceramic accessories rigidly in prepared openings.
- G. Install non-ceramic trim in accordance with manufacturer's instructions.
- H. Sound tile after setting. Replace hollow sounding units.
- I. Keep control and expansion joints free of mortar, grout, and adhesive.
- J. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- K. Grout tile joints unless otherwise indicated on drawings. Use standard grout unless otherwise indicated on drawings.
- L. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, on ground, with standard grout, unless otherwise indicated on drawings.
 - 1. Where crack isolation membrane is indicated on drawings, install in accordance with TCNA (HB) Method F125-Partial, with latex-Portland cement grout.

3.05 INSTALLATION - SHOWERS AND BATHTUB WALLS

- A. At tiled showers and bathtubs, install in accordance with TCNA (HB) Method B420, mortar bed floor, and W245, thin-set over coated glass mat backer board walls.
- B. Grout with standard grout.

3.06 INSTALLATION - WALL TILE

- A. Over coated glass mat backer board on studs, install in accordance with TCNA (HB) Method W245.
- B. Over gypsum wallboard on wood or metal studs, install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat.
- C. Over interior concrete and masonry, install in accordance with TCNA (HB) Method W202I, thin-set with dry-set or latex-Portland cement bond coat.

3.07 CLEANING

- A. Clean tile and grout surfaces.

3.08 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION