

SECTION 09 30 00
TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile for wall applications.
- B. Metal trim.

1.02 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants: For sealing of expansion, contraction, control, and isolation joints in tile surfaces and adjacent construction and fixtures.
- B. Section 09 21 16 - Gypsum Board Assemblies: Tile backing panels.

1.03 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile; 2021.
- C. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.
- D. ANSI A137.3 - American National Standard Specifications for Gauged Porcelain Tile and Gauged Porcelain Tile Panels/Slabs; 2021.
- E. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials; 2017.
- F. 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).
- G. TCNA (HB-GP) - Handbook for Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs Installation; 2023.
- H. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation, 2023.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturer's product data sheet for each type of product, including tile, mortar, grout, and accessories.
- C. Shop Drawings: Indicate locations of each type of tile, tile layout, junctions with dissimilar materials, control and expansion joints, and setting details.
- D. Samples: Full size units of each type and composition of tile and for each color and finish required, illustrating pattern and color variations. Submit samples to Owner for approval in conjunction with product data.
- E. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods. Submit in conjunction with product data and samples.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of ANSI A108/A118/A136, TCNA (HB), and TCNA (HB-GP) on-site.
- 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. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

- B. Protect materials 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 of 50 degrees F (10 degrees C) during installation of mortar materials or as recommended by manufacturer.

PART 2 PRODUCTS

2.01 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: 12 by 24 inch (____by____ mm), nominal.
 - 3. Thickness: 10 mm.
 - 4. Surface Finish: Matte.
 - 5. Color: As indicated on drawings.
 - 6. Dynamic Coefficient of Friction: Not less than 0.42.
 - 7. Products:
 - a. MSI; Cementino Grey Porcelain Tile.

2.02 ACCESSORIES AND TRIM

- A. Metal Trim: Aluminum.
 - 1. Finish: Black.
 - 2. Size: 3/8 inch.
 - 3. Product:
 - a. TrimMaster; Aluminum Square Tile Edging Trim: www.homedepot.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ADHESIVE MATERIALS

- A. Not permitted.

2.04 SETTING MATERIALS

- A. Provide setting and grout materials from same manufacturer.
- B. Large and Heavy Tile Modified Dry-Set Cement Mortar (Thin-Set): ANSI A118.4.
 - 1. Applications: Use with tiles greater than 15 inch on any side, or heavy tiles more than 5 lbs per square foot; interior and exterior applications.
 - 2. Products:
 - a. Mapei Corporation; Ultraflex LFT: www.mapei.com.
 - b. LATICRETE International, Inc.; 4-XLT: www.laticrete.com.
 - c. Custom Building Products; Prolite: www.custombuildingproducts.com.
 - d. Bostik; BAM: www.bostik.com.

2.05 GROUT MATERIALS

- A. Provide setting and grout materials from same manufacturer.
- B. High Performance Tile Grout: ANSI A118.7, polymer modified cement grout.
 - 1. Applications: As indicated on drawings
 - 2. Color: As selected from manufacturer's standard offering.
 - 3. Products:
 - a. Mapei Corporation; Ultracolor Plus FA: www.mapei.com.
 - b. LATICRETE International, Inc.; PERMACOLOR Select: www.laticrete.com.
 - c. Custom Building Products; Fusion Pro: www.custombuildingproducts.com.
 - d. Bostik; Hydroment Vivid: www.bostik.com.

2.06 MAINTENANCE MATERIALS

- A. Grout Release: Temporary, water-soluble pre-grout coating. Type recommended by manufacturer.
 - 1. Use only when recommended by grout manufacturer.

PART 3 EXECUTION

3.01 PREPARATION

- A. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.02 INSTALLATION - GENERAL

- A. Install tile and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.1a, manufacturer's instructions, and TCNA (HB) or TCNA (HB) recommendations, as applicable.
- B. Provide movement joints as indicated on Drawings, or if not indicated, Contractor shall locate joints in conformance with TCNA EJ171 Movement Joint Guidelines for Ceramic, Glass, and Stone, Guidelines recommendations, subject to Architect Engineer's approval.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- D. Lay tile to pattern indicated on drawings. Do not interrupt tile pattern through openings, unless noted otherwise.
- E. Cut and fit tile closely to penetrations, leaving sealant joint space. Form corners neatly. Align floor, base, and wall joints, unless noted otherwise.
- F. 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.
- G. Install metal trim in accordance with manufacturer's instructions at locations indicated on drawings. Fill voids in trim pieces with thin-set as required by conditions.
- H. Prior to grouting, allow installation to completely cure; minimum of 48 hours, or as recommended by manufacturer
- I. Grout tile joints unless otherwise indicated.
- J. At changes in plane and tile-to-tile movement joints, use flexible caulk as recommended by ANSI and TCNA that meets ASTM C920, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding. Color match flexible caulk to grout in tile assembly.

3.03 INSTALLATION - INTERIOR FLOORS (THIN-SET)

- A. General: Final assembly to comply with ADA Standards for 1/2 inch maximum height difference between flooring materials.
- B. On-ground concrete substrate with cementitious bond coat and epoxy grout, install in accordance with TCNA Method F115.
 - 1. Install uncoupling membrane under all floor tile per manufacturer's written instructions.

3.04 INSTALLATION - INTERIOR WALL TILE (THIN-SET)

- A. Masonry or concrete substrates, install in accordance with TCNA Method W202I, with or without waterproof membrane.

3.05 ADJUSTING AND CLEANING

- A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- B. Clean all tile surfaces, accessories and trim so they are free of foreign matter. Use only cleaners recommended by tile and grout manufacturers.

- C. Protect metal surfaces and plumbing fixtures from effects of cleaning.
- D. Do not use bleach, ammonia, or vinegar on sanded grout.

3.06 PROTECTION

- A. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

END OF SECTION