

SECTION 093000 TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Cementitious backer board as tile substrate.
- D. Stone thresholds.
- E. Ceramic accessories.
- F. Non-ceramic trim.

1.02 RELATED REQUIREMENTS

- A. Section 079200 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- B. Section 092116 - Gypsum Board Assemblies: Tile backer board.

1.03 REFERENCE STANDARDS

- A. ANSI A108/A118/A136.1 - Specifications for the Installation of Ceramic Tile; 2020.
 - 1. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2017 (Reaffirmed 2022).
 - 2. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 2017.
 - 3. ANSI A108.1c - Contractor's Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2021).
 - 4. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship; 2019.
 - 5. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive; 2019.
 - 6. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 2021.
 - 7. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy; 1999 (Reaffirmed 2019).
 - 8. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2019).
 - 9. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2019).
 - 10. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 2017 (Reaffirmed 2022).
 - 11. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2018.
 - 12. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2019).
 - 13. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2021).
 - 14. 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.

15. ANSI A108.20 - American National Standard Specifications for Exterior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs; 2020.
16. ANSI A118.1 - American National Standard Specifications for Dry-Set Cement Mortar; 2019.
17. 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.
18. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2019.
19. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 2019.
20. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 2019.
21. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2014 (Reaffirmed 2019).
- B. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; 2019.
 1. ANSI A136.1 - American National Standard Specifications for Organic Adhesives for Installation of Ceramic Tile; 2020.
 2. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.
- C. ASTM D4068 - Standard Specification for Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane; 2017 (Reapproved 2022).
- D. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2024.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches in size illustrating pattern, color variations, and grout joint size variations.
- D. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of and ANSI A108/A118/A136.1 and TCNA (HB) on site.
- B. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

1.06 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: All products by the same manufacturer. As indicated on Finish Drawings.
- B. Ceramic Mosaic Tile: ANSI A137.1, standard grade.
 1. As indicated on Finish Drawings.
 2. Trim Units: Matching bead, cove, and surface bullnose shapes in sizes indicated.
- C. Glazed Wall Tile: ANSI A137.1, standard grade.
 1. As indicated on Finish Drawings.
 2. Trim Units: Matching bead, bullnose, cove, and base shapes in sizes indicated.
- D. Quarry Tile: ANSI A137.1, standard grade.
 1. As indicated on Finish Drawings.

2. Trim Units: Matching bullnose, cove, and cove base shapes in sizes indicated.
- E. Porcelain Tile: ANSI A137.1, standard grade.
 1. As indicated on Finish Drawings.
 2. Trim Units: Matching bullnose, cove base, cove, and window sill or step nosing shapes in sizes indicated.
- F. Slate : ANSI A137.1
 1. As indicated on Finish Drawings.
 2. Trim Units: Matching bullnose, double bullnose, cove, and cove base shapes in sizes indicated.

2.02 TRIM AND ACCESSORIES

- A. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile unless otherwise indicated on Finish Drawings; same manufacturer as tile.
- B. Non-Ceramic Non-Ceramic Trim: Satin brass anodized extruded aluminum Satin brass anodized extruded aluminum, style and dimensions to suit application to suit application, for setting using tile mortar or adhesive.
 1. Manufacturers:
 - a. Schluter-Systems: www.schluter.com/#sle.
 - 1) Tile to Vinyl: Reno - AEV.
 - 2) Tile to Carpet: Reno.
 - b. Substitutions: See Section 016000 - Product Requirements.
- C. Thresholds: 2 inches wide by full width of wall or frame opening; beveled edge on one long edge with radiused corners on top side; without holes, cracks, or open seams.
 1. Thickness: 1/2 inch.
 2. Material: Marble, honed finish.
 3. Color and Pattern: White or gray.

2.03 SETTING MATERIALS

- A. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.
- B. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3.
- C. Organic Adhesive: ANSI A136.1, thinset mastic type.
 1. Use Type I in areas subject to prolonged moisture exposure.
- D. Dry-Set Portland Cement Mortar Bond Coat: ANSI A118.1.

2.04 GROUTS

- A. Manufacturers:
 1. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
- B. Standard Grout: ANSI A118.6 standard cement grout.
 1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
 3. Color(s): As selected by Architect from manufacturer's full line.
- C. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
 1. Applications: Where indicated.
 2. Color(s): As selected by Architect from manufacturer's full line.

2.05 ACCESSORY MATERIALS

- A. Waterproofing Membrane at Showers and Tiled Tubs: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
 1. Mortar Bonded Sheet Type:
 - a. Material: Chlorinated polyethylene sheet membrane with polyester fabric laminated to both sides, 30 mils, thick, minimum, complying with ASTM D4068.

- b. Products:
 - 1) Schluter Systems; Product Kerdi.
- B. Uncoupling Membrane: 1/8 inch thick polyurethane matting with three-dimensional grid structure with dovetail shaped cavities and fleece webbing laminated to the underside to provide a mechanical bond to the substrate adhesive (DITRA).
 - 1. Acceptable Product: Schluter Systems "DITRA".
- C. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 7/16 inch thick; 2 inch wide coated glass fiber tape for joints and corners.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that subfloor surfaces are dust free and free of substances that could impair bonding of setting materials to subfloor surfaces.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- D. Install 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 a feather edge.

3.03 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.20, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Lay tile to pattern indicated. 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. Install thresholds where indicated.
- I. Sound tile after setting. Replace hollow sounding units.
- J. Keep control and expansion joints free of mortar, grout, and adhesive.
- K. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- L. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
- M. 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, with standard grout, unless otherwise indicated.
 - 1. Use uncoupling membrane under all tile unless other underlayment is indicated.

2. Where waterproofing membrane is indicated, install in accordance with TCNA (HB) Method F122, with latex-Portland cement grout.
3. Where epoxy bond coat and grout are indicated, install in accordance with TCNA (HB) Method F131.
4. Where epoxy grout is indicated, but not epoxy bond coat, install in accordance with TCNA (HB) Method F115.

3.05 INSTALLATION - SHOWERS AND BATHTUB WALLS

- A. At tiled shower receptors install in accordance with TCNA (HB) Method B415, mortar bed floor, and W244, thin-set over cementitious backer unit walls.
- B. Grout with standard grout as specified above.

3.06 INSTALLATION - WALL TILE

- A. Over coated glass mat backer board on studs, install in accordance with TCNA (HB) Method W245.

3.07 CLEANING

- A. Clean tile and grout surfaces as per manufacturer's recommendations.

3.08 PROTECTION

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

END OF SECTION