1. Section 093000   
   Tiling
   1. PART 1  GENERAL
      1. REFERENCE STANDARDS
         1. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2023.
         2. ANSI A108.1b - Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set, Modified Dry-Set, or Improved Modified Dry-Set Cement Mortar; 2023.
         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, Modified Dry-Set, or Improved Modified Dry-Set Cement Mortar; 2023.
         4. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive; 2023.
         5. ANSI A108.5 - Setting of Ceramic Tile with Dry-Set Cement Mortar, Modified Dry-Set Cement Mortar, EGP (Exterior Glue Plywood) Modified Dry-Set Cement Mortar, or Improved Modified Dry-Set Cement Mortar; 2023.
         6. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy; 2023.
         7. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2019).
         8. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 2023.
         9. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 2017 (Reaffirmed 2022).
         10. ANSI A108.12 - Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Modified Dry-Set Mortar; 2023.
         11. 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).
         12. 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.
         13. ANSI A108.20 - American National Standard Specifications for Exterior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs; 2020.
         14. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2019.
         15. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 2023.
         16. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2023.
         17. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014 (Reaffirmed 2019).
         18. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.
         19. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2024.
         20. TCNA (HB-GP) - Handbook for Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs Installation; 2023.
      2. SUBMITTALS
         1. See Section 013000 - Administrative Requirements for submittal procedures.
         2. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
      3. FIELD CONDITIONS
         1. Do not install solvent-based products in an unventilated environment.
         2. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.
   2. PART 2  PRODUCTS
      1. TILE
         1. Manufacturers:  ​All products of each type by the same manufacturer.​
         2. Ceramic Wall Type, Type Ottimo Ceramics:
            1. Size:  ​16" by 48" inch​, nominal.
            2. Color(s):  ​Oak DAS012​.
            3. Trim Units:  Matching ​bead​ shapes in ​sizes coordinated with field tile​.
         3. Ceramic Floor Tile, Type Daltile:
            1. Color(s):  ​Cenere Fog SV98​.
            2. Pattern:  ​Severino​.
            3. Trim Units:  Matching ​bead and cove​ shapes in ​sizes coordinated with field tile​.
      2. SETTING MATERIALS
      3. GROUTS
         1. High Performance Polymer Modified Grout:  ANSI A118.7 polymer modified 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.
      4. ACCESSORY MATERIALS
         1. Waterproofing Membrane at Floors:  Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
            1. Crack Resistance:  No failure at 1/16 inch gap, minimum; comply with ANSI A118.12.
            2. Fluid or Trowel Applied Type:

Material:  Synthetic rubber or Acrylic.

Thickness:  25 mils, minimum, dry film thickness.

* + - 1. 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. Fluid or Trowel Applied Type:

Material:  Synthetic rubber.

Thickness:  25 mils, minimum, dry film thickness.

* + - 1. 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.
      2. Mesh Tape:  2 inch wide self-adhesive fiberglass mesh tape.
  1. PART 3  EXECUTION
     1. INSTALLATION - GENERAL
        1. 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) or TCNA (HB-GP) recommendations, as applicable.
        2. Lay tile to pattern indicated.  Do not interrupt tile pattern through openings.
        3. Cut and fit tile to penetrations through tile, leaving sealant joint space.  Form corners and bases neatly.  Align floor joints.
        4. 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.
        5. Form internal angles square and external angles bullnosed.
        6. Sound tile after setting.  Replace hollow sounding units.
        7. Keep control and expansion joints free of mortar, grout, and adhesive.
        8. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
        9. Grout tile joints unless otherwise indicated.  Use standard grout unless otherwise indicated.
        10. 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.
     2. INSTALLATION - FLOORS - THIN-SET METHODS
        1. Over wood substrates, install in accordance with TCNA (HB) Method ​F142​, with ​premixed polymer-modified grout​.
     3. INSTALLATION - SHOWERS AND BATHTUB WALLS
        1. At bathtub walls install in accordance with TCNA (HB) Method B412, over cementitious backer units with waterproofing membrane.
        2. Grout with ​premixed polymer-modified grout​.
     4. INSTALLATION - WALL TILE
        1. On exterior walls install in accordance with TCNA (HB) Method W244, thin-set over cementitious backer units, with waterproofing membrane.
        2. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.

1. END OF SECTION

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