

SECTION 09 30 00

TILING

PART 1 – GENERAL

1.1 PURPOSE

- A. This guideline is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. PSP is to apply the principles of this section such that the University of Texas at Arlington (UTA) may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be approved by UTA and may require justification through Life Cycle Cost (LCC) analysis and submitted to UTA for approval.

1.2 LESSONS LEARNED AND DESIGN CONSIDERATIONS

- A. X

1.3 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Coated glass mat backer board as tile substrate.
- D. Non-ceramic trim.

1.4 RELATED REQUIREMENTS

- A. Section 07 90 05 – Joint Sealers.

1.5 REFERENCE STANDARDS

- A. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); current edition.
 - 1. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; current edition.
 - 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; current edition.
 - 3. ANSI A108.1c - Specifications for Contractors 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 Bed with Dry-Set or Latex-Portland Cement; current edition.
 - 4. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; current edition.
 - 5. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; current edition.
 - 6. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; current edition.
 - 7. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; current edition.
 - 8. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; current edition.
 - 9. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; current edition.
 - 10. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; current edition.
 - 11. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior glue plywood) Latex-Portland Cement Mortar; current edition.
 - 12. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; current edition.
 - 13. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; current edition.
 - 14. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; current edition.

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15. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; current edition.
 16. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; current edition
 - B. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; current edition.
 - C. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; current edition.
- 1.6 SUBMITTALS
- A. See Division 01 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. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
 - E. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- 1.7 QUALITY ASSURANCE
- A. Maintain one copy of and ANSI A108/A118/A136.1 and TCNA (HB) on site.

PART 2 – PRODUCTS

2.1 TILE

- A. Floor and Wall Tile: Porcelain and Glass; ANSI A137.1
 1. Size and Shape: As selected by Architect.
 2. Edges: Cushioned.
 3. Surface Finish:
 - a). Wall: Polished or Honed.
 - b). Floor: Honed.
 4. Colors: As selected by Architect.

2.2 TRIM AND ACCESSORIES

- A. Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.
 1. Applications:
 - a. Open edges of wall tile.
 - b. Open edges of floor tile.
 - c. Wall corners, outside and inside.
 - d. Transition between floor finishes of different heights.
 - e. Thresholds at door openings.
 2. Manufacturers:
 - a. Schluter-Systems: www.schluter.com.

2.3 SETTING MATERIALS

- A. Provide setting materials made by the same manufacturer as grout.
- B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4, ANSI A118.15, or
 1. Products:
 - a. ARDEX Engineered Cements; ARDEX X 77 MICROTEC: www.ardexamericas.com.
 - b. LATICRETE International, Inc.; LATICRETE 254 Platinum: www.laticrete.com.
 - c. Substitutions: See Division 01.

2.4 GROUTS

- A. Manufacturers:
 1. ARDEX Engineered Cements;
 2. Custom Building Products: www.ardexamericas.com.
- B. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
 1. Color(s): As selected by Architect.
 2. Products:

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- a. LATICRETE International, Inc.; LATICRETE SPECTRALOCK PRO Premium Grout: www.laticrete.com.
 - b. Substitutions: See Division 01.
 - C. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
 - 1. Applications: Between tile and plumbing fixtures.
 - 2. Products:
 - a. LATICRETE International, Inc.; LATICRETE Latacil: www.laticrete.com.
 - D. Standard Grout: Any type specified in ANSI A118.6 or A118.7.
- 2.5 ACCESSORY MATERIALS
- A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
 - 1. Thickness: 20 mils, maximum.
 - 2. Crack Resistance: No failure at 1/16 inch gap, minimum.
 - 3. Products:
 - a. LATICRETE International, Inc.; LATICRETE Blue 92 Anti-Fracture Membrane: www.laticrete.com.
 - b. Substitutions: See Division 01 - Product Requirements.
 - 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. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.
 - D. Sealants:
 - 1. Laticrete International, Inc., Laticrete Latacil.
 - a. Substitutions: See Division 01 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that sub-floor 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 sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
- D. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.

3.2 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.

3.3 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a thru A108.13, 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 non-ceramic trim in accordance with manufacturer's instructions.
- G. Sound tile after setting. Replace hollow sounding units.
- H. Keep control and expansion joints free of mortar, grout, and adhesive.
- I. Keep expansion joints free of adhesive or grout. Apply sealant to joints.

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- J. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
 - K. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
 - 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.
 - M. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes. Apply sealant to joints. While sealant is still tacky, sprinkle dry grout, in color to match adjacent grout, into sealant. Brush away excess grout when dry and cured.
- 3.4 INSTALLATION – FLOORS – THIN-SET METHODS
- A. Over interior concrete substrates, install in accordance with TCA Handbook Method F113, dry-set or latex-portland cement bond coat, with standard grout, unless otherwise indicated.
 - B. Install anti-fracture membrane in accordance with ANSI A108.17 and TCA F125 for partial coverage and TCA F125A for full coverage.
 - 1. Pre-cut reinforcing fabric to fit the area to be treated, allowing 2 inch overlap at edges and ends.
 - 2. Pre-treat all cracks, cold joints, control joints, coves, corners and penetrations in accordance with manufacturer's printed installation instructions.
 - 3. Apply anti-fracture liquid to pre-treated areas and embed membrane, forcing anti-fracture membrane liquid to “bleed” through fabric. Brush or roll membrane to smooth surface.
 - 4. Apply top coat of anti-fracture liquid over treated areas.
 - 5. Allow anti-fracture membrane to thoroughly dry before proceeding with tile installation.
- 3.5 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 metal studs install in accordance with The Tile Council of North America Handbook Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.
- 3.6 CLEANING
- A. Clean tile and grout surfaces.
- 3.7 PROTECTION
- A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION