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CERAMIC TILING

1.0 GENERAL

1.01 SUMMARY

- A. Provide ceramic tile and finishing/edge protection where scheduled on the Drawings, as specified herein and as needed for a complete and proper installation.
- B. Related work:
 - 1. Section 09 29 00: Gypsum Board.

1.02 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 33 00.
- B. Submit:
 - 1. Samples of tile in the full range of colors available from the proposed manufacturer in the specified size and texture.
 - 2. Samples of grout in the full range of colors available from the proposed manufacturer in the specified grades.
 - 3. Samples of finishing and edge protection from the proposed manufacturer in the specified size, finish and profile.
- C. Maintenance data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Maintain one (1) copy of "2019 Handbook for Ceramic, Glass and Stone Tile Installation" published by the Tile Council of North America, Inc. (TCNA) and ANSI A108 Series/A118 Series on site.
- C. Materials shall be identified on the package with manufacturer's name, type of material, grade and color.
- D. Standards:
 - 1. Prepare surface, set, grout and clean tile in accordance with the following methods described in current edition of the Handbook for Ceramic Tile Installation published by the Tile Council of America, Inc.:
 - a. Walls: W242 Wood studs, gypsum board, organic adhesive.
 - b. Walls: W245 Wood studs, glass mat faced gypsum backer boards.
 - c. Floors (all floors scheduled unless noted): F113 Concrete subfloor - Latex-Portland cement mortar.
 - 2. Work shall be executed and tested in accordance with current editions of the following standards:
 - a. ANSI A108.1A: Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar.
 - b. ANSI A108.4: Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive.
 - c. ANSI A108.5: Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
 - d. ANSI A108.6: Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy.
 - e. ANSI A108.10: Installation of Grout in Tilework.
 - f. ANSI A108.11: Interior Installation of Cementitious Backer Units.
 - g. ANSI A118.1: Dry-Set Cement Mortar.
 - h. ANSI A118.4: Latex-Portland Cement Mortar.
 - i. ANSI A118.6: Standard Cement Grouts for Tile Installation.
 - j. ANSI A136.1: Organic Adhesives for Installation of Ceramic Tile.
 - k. ASTM C150: Specifications for Portland Cement.
 - l. ASTM C206: Specifications for Finishing Hydrated Lime.
 - 3. Ceramic tile shall comply with current edition of ANSI A137.1: Standard Specifications for Ceramic Tile.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Section 01 60 00.
- B. Deliver to job site and store packaged material in original containers with labels intact.
- C. Prevent damage to materials by water, freezing, or other causes.
- D. Store materials in a dry, warm, ventilated, weathertight location.

1.05 PROJECT CONDITIONS

- A. Maintain temperatures at not less than 50°F in tiled areas during installation, and for 7 days after completion unless higher temperatures are required by manufacturer's instructions.
- B. Protection:
 - 1. Protect adjacent surfaces during progress of the work of this Section.
 - 2. Close rooms and spaces to traffic of all types until mortar and grout have set for 72 HRS.
- C. Observe the manufacturer's recommended safety precautions, including those pertaining to ventilation.
- D. Illuminate the work area during installation, providing the same level and angle of illumination as will be available for final inspection.

1.06 EXTRA STOCK

- A. At completion of the project, deliver to the Owner an extra stock of tile and trim shapes of each type, color, pattern, and size used in the work of this Section, at the rate of approximately 5% of the amount used in the Work, packaging material securely to prevent damage, and clearly labeled.

2.0 PRODUCTS

2.01 CERAMIC TILE

- A. Provide ceramic tile where scheduled on the Drawings, in the following selections and colors:
- B. Provide standard trim shapes as required.
 - 1. Provide all caps, stops, returns, trimmers, and other shapes indicated or required to produce a completely finished installation.
 - 2. Except as may be shown otherwise on the Drawings, provide color and finish matching the adjacent tile.
- C. CT-1-Colorbody Porcelain tile (all floors, base and walls scheduled unless noted otherwise):
 - 1. Manufacturer: Dal-Tile.
 - 2. Product: Haut Monde, 12 IN x 24 IN x 5/16 IN, Matte finish.
 - 3. Color: Glitterati Granite HM03.
 - 4. Base units: Provide cove base tile in matching color; size 6 IN x 12 IN (where wall finish scheduled is NOT ceramic tile).
- D. CT-2-Glazed color-body Porcelain floor tile (all Drying and Shower floors scheduled):
 - 1. Manufacturer: Dal-Tile.
 - 2. Product: Haut Monde, 2 IN x 2 IN x 5/16 IN, Matte finish, mesh-mounted Mosaic in 12 IN x 12 IN sheet.
 - 3. Color: Glitterati Granite HM03.

2.02 SETTING MATERIALS

- A. Comply with pertinent recommendations contained in the current edition of the Tile Council of America "Handbook for Ceramic Tile Installation".
- B. Dry-set mortar:
 - 1. Provide a commercially prepared mixture of Portland cement, sand, and additives imparting water-retentivity, for use as a bond coat for setting tile.
 - 2. Comply with ANSI A118.1.
- C. Latex-Portland cement mortar:
 - 1. Provide a commercially prepared mixture of Portland cement, sand, and special latex additive for use as a bond coat for setting tile.
 - 2. Comply with ANSI A118.4.

- D. Organic Adhesive for wall and base tile:
 - 1. Provide a prepared organic material, ready to use with no further addition of liquid or powder, which cures or sets by evaporation.
 - 2. Comply with ANSI A136.1.
- 2.03 GROUT
 - A. Provide grout in colors selected by the Architect from standard colors available from the approved manufacturers.
 - 1. At all CT-1 ceramic tile: Similar to Custom Grout, # TBD.
 - 2. At all CT-2 ceramic tile: Similar to Custom Grout, # TBD.
 - B. Provide grout complying with ANSI A118.6 appropriate to each type of ceramic tile used and type of exposure.
- 2.04 SEALANT
 - A. Provide sealant as recommended by tile manufacturer in colors selected by the Architect from standard colors available from the approved manufacturers.
- 2.05 FINISHING AND EDGE PROTECTION
 - A. Approved manufacturer: Schluter Systems, LP, Plattsburgh, NY, Tel. 800-472-4588, Web www.schluter.com.
 - B. Exposed edge and exterior corner wall trim: QUADDEC.
 - 1. Description: Profile with square visible surface, integrated trapezoid-perforated anchoring leg and integrated grout joint spacer.
 - 2. Corners: Provide with matching inside and outside corners and internal connectors.
 - 3. Material and finish: AT – satin nickel anodized aluminum.
 - 4. Height: 1/4, 5/16 or 3/8 IN as required for specific ceramic tile.
 - C. Sloped transition floor trim: RENO-U.
 - 1. Description: Profile with sloped exposed surface, 5/32 IN tall leading edge, integrated trapezoid-perforated anchoring leg and integrated grout joint spacer.
 - 2. Material and finish: AT – satin nickel anodized aluminum.
 - 3. Height: 1/4, 5/16 or 3/8 IN as required for specific ceramic tile.
- 2.06 OTHER MATERIALS
 - A. Grout sealer: Provide 'Aquamix' as manufactured by Dal-Tile or equal products of other manufacturers approved in advance by the Architect.
 - B. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.
- 3.0 EXECUTION
- 3.01 SURFACE CONDITIONS
 - A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
 - B. Coordinate with other trades as needed to assure that proper substrata are provided to receive the work of this Section.
 - C. Condition of surfaces to receive tile:
 - 1. Verify that grounds, anchors, plugs, recess frames, bucks, electrical work, mechanical work, and similar items in or behind the tile have been installed before proceeding with installation of mortar bed or tile.
 - 2. Verify that surfaces to receive mortar setting bed and tile are firm, dry, clean, and free from oily or waxy films and curing compounds.
 - 3. Concrete slabs shall be clean and free of films which may prevent bonding of mortar. Verify that concrete slabs are ready for tile installation by testing for moisture emission rate and alkalinity.

4. Wall surfaces in toilets scheduled to receive tile shall be moisture and mold-resistant gypsum board with taped and bedded joints. Seal surface of taped joints. Prime entire surface in accordance with adhesive manufacturer's recommendation.
5. Wall surfaces in showers scheduled to receive tile shall be backer board with taped and bedded joints. Seal surface of taped joints. Prime entire surface in accordance with adhesive manufacturer's recommendation.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces.
- C. Seal substrate surface cracks with filler. Level substrate surfaces to acceptable flatness tolerances.
- D. Ensure backer board has been installed in accordance with pertinent provisions of ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.

3.03 INSTALLATION-FINISH AND EDGE PROTECTION

- A. Install finish and edge protection in accordance with manufacturer's instructions.

3.04 INSTALLATION-GENERAL

- A. General:
 1. Install tile, grout and thresholds in accordance with pertinent provisions of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations.
 2. Maintain minimum temperature limits and installation practices recommended by materials manufacturers.
 3. Mix and use proprietary materials in strict accordance with the manufacturers' printed instructions.
 4. Sound tile after setting. Replace hollow sounding units.
 5. Provide tile surfaces clean and free from cracked, chipped, broken, unbonded and otherwise defective units.
 6. Allow tile to set MIN 48 HRS prior to grouting.
- B. Limits of tile:
 1. Extend tile into recesses, under and behind equipment and fixtures to form a complete covering without interruptions.
 2. Cut and fit tile to electrical outlets, piping, fixtures, and other penetrations so that plates, collars, or covers overlap tile; leave sealant joint space around penetration.
 3. Terminate tile neatly at obstructions, edges, and corners, without disruption of pattern or joint alignment.
 4. Form internal angles square and external angles bullnosed.
- C. Joining pattern:
 1. Lay tile in brick pattern unless otherwise indicated on the Drawings or directed by the Architect. Do not interrupt tile pattern through openings.
 2. Align joints when adjoining tiles on base, trim, and walls are the same size.
 3. Layout tile work and center the tile fields both directions in each space or on each wall area.
 4. Lay out tiles so that all cut tiles occur at inside corners where possible.
 5. Adjust to minimize tile cutting.
 6. Provide uniform joint widths, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
 7. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so that extent of each sheet is not apparent in finished work.
- D. Provide expansion and control joints where recommended by the current edition of the TCA Handbook.
 1. Verify exact locations of joints with the Architect prior to beginning the work of this Section.
- E. Grout tile to comply with referenced installation standards using grout materials specified.
- F. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

- 3.05 INSTALLATION-FLOOR TILE
- A. Install floor tile in accordance with TCA Handbook Method F111 (showers) or F113 (all other floors scheduled).
- 3.06 INSTALLATION-WALL TILE
- A. Install wall tile in accordance with TCA Handbook Method W242 over gypsum board or W245 over glass mat faced gypsum backer board (see Section 09 28 16).
- 3.07 INSTALLATION-GROUT SEALER
- A. Seal cementitious grout in floor tile joints with grout sealer in accordance with manufacturer's instructions.
 - B. Remove excess sealer from tile surfaces.
- 3.08 CLEANING
- A. Upon completion of placing and grouting, clean the work of this Section in accordance with recommendations of the manufacturers of the materials used.
 - B. Protect metal surfaces, cast iron, and vitreous items from effects of acid cleaning.
 - C. Flush surfaces with clean water before and after cleaning.
- 3.09 PROTECTION
- A. Provide required protection of tile surfaces to prevent damage and wear prior to acceptance of Work by the Owner.

END OF SECTION