

SECTION 09311
CERAMIC TILE

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work in this section.

1.2 SECTION INCLUDES:

- A. This Contractor shall furnish and install all tile and accessories shown on the plans or specified.
- B. Work includes all plant facilities, services, materials, labor, tools and appliances required.

1.3 REFERENCES

- A. ANSI/CTI A108.1 - Installation of Ceramic Tile with Portland Cement Mortar.
- B. ANSI A108.3 - Quarry Tile and Paver Tile Installed with Portland Cement Mortar.
- C. ANSI A108.4 - Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile Setting Epoxy Adhesive.
- D. ANSI A108.5 - Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex Portland Cement Mortar.
- E. ANSI A108.6 - Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy.
- F. ANSI A108.8 - Installation of Ceramic Tile with Chemical Resistant Furan Mortar and Grout.
- G. ANSI A108.9 - Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout.
- H. ANSI A108.10 - Installation of Grout in Tile work.
- I. ANSI A118.1 - Dry-Set Portland Cement Mortar.
- J. ANSI A118.3 - Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive.
- K. ANSI A118.4 - Latex-Portland Cement Mortar.
- L. ANSI A118.5 - Chemical Resistant Furan Mortars and Grouts for Tile Installation.
- M. ANSI A118.6 - Ceramic Tile Grouts.
- N. ANSI A118.8 - Modified Epoxy Emulsion Mortar/Grout.
- O. ANSI A136.1 - Organic Adhesive for Installation of Ceramic Tile.
- P. ANSI A137.1 - Standard Specifications for Ceramic Tile.
- Q. TCA (Tile Council of America) - Handbook for Ceramic Tile Installation.

1.4 JOB CONDITIONS:

- A. This Contractor shall inspect the job conditions before starting, and his starting work constitutes approval of conditions. All flooring variations less than 1/8" in 10 ft., chips and cracks are the responsibility of the flooring subcontractor to feather/patch prior to the installation of tile.

1.5 SUBMITTALS:

- A. Submit manufacturer's detailed technical data and tile and grout samples per Section 01300.
- B. Product Data: Provide instruction for using adhesives and grouts.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds and setting details.
- D. Manufacturer's Certificate: Certify that products meet or exceed ANSI A137.1.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
- B. Furnish quantity of full-size units equal to 2.0% of amount installed.

PART 2 PRODUCTS

2.1 CERAMIC TILE (CT)

- A. Tile Products manufactured by American Olean, Dal-Tile or Mannington will be acceptable, providing their products equal or exceed the type and quality of the specified products and the colors match the colors specified.
- B. Provide standard grade ceramic glazed wall tile conforming to ANSI A137.1.
- C. Provide standard 6" square by 5/16" thick matte glazed tile with cushioned edge.
 - 1. Use master-set, back mounted sheets.
- D. Provide standard grade ceramic unglazed floor tile conforming to ANSI A137.1.
 - 1. Tile shall meet or exceed the ADAAG slip resistance coefficient of 0.6 on static surfaces and 0.8 on ramps, and submit documentation to Architect.
 - 2. Provide standard 6" square by 5/16" thick matte unglazed tile with cushioned edge.
 - 3. Use master-set, back mounted sheets.
- E. Glazed Wall Tile Trim, provide the following:
 - 1. Size, color, and shade to match field tile.
 - 2. Bull nose wainscot cap where required.
 - 3. Standard, square top, cove base at tile floors.
 - 4. Square top, set-on type, cove base at other floors.
 - 5. Square edges at inside corners.
 - 6. Bull nose edges at outside corners and jambs.

2.2 CERAMIC MOSAIC TILE (CMT)

- A. Tile Products manufactured by American Olean, Dal-Tile or Mannington will be acceptable, providing their products equal or exceed the type and quality of the specified products and the colors match the colors specified.
 - 1. Tile shall meet or exceed the ADAAG slip resistance coefficient of 0.6 on static surfaces and 0.8 on ramps, and submit documentation to Architect.
- B. Provide standard grade ceramic mosaics conforming to ANSI A137.1.
- C. Provide standard 2" square by 1/4" thick porcelain type with all purpose edges and patterns.
- D. Use master-set, back mounted sheets.
- E. Furnish with 7½% abrasive grain content in wet areas only.

2.3 MORTAR MATERIALS

- A. Products of the following mortar and grout will be acceptable, providing their products equal or exceed the type and quality of the specified products and the colors match the colors specified.
 - 1. Dry Set Mortar
 - a. American Olean, AO Dry-Set Mortar.
 - b. Bonsal, Floor This Set Mortar.
 - c. Laticrete, Laticrete 317.
 - 2. Latex Portland Cement Mortar

- a. American Olean, AO Dry-Set Mortar
- b. Bonsal, Floor This Set Mortar/B-730 Acrylic Additive
- c. Laticrete, Laticrete 317/Laticrete 3701 Grant and Mortar Admix
3. Chemical-Resistant, Water-Cleanable, Tile-Setting and Grouting Epoxies
 - a. American Olean, AO6000 Epoxy Mortar and Grout
 - b. Bonsal, Epox-E-Set.
 - c. Laticrete, Latapoxy 2000 Epoxy Grout

2.4 SETTING MATERIALS

- A. Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A108.1A and as follows:
 1. Cleavage Membrane: Asphalt felt, ASTM D226, Type 1 (No. 15), or polyethylene sheeting ASTM D4397, 4.0 mils (0.1 mm) thick.
 2. Reinforcing Wire Fabric: Galvanized, welded wire fabric, 2" by 2" by 0.062" diameter, comply with ASTM A185 and ASTM A82, except for minimum wire size.
- B. Dry-Set Portland Cement Mortar: ANSI A118.1
 1. For wall applications, provide non-sagging, latex Portland cement mortar complying with ANSI A118.4 for mortar of this type defined in Section F-2.1.2.
- C. Latex Portland Cement Mortar: ANSI A118.4, composed as follows:
 1. Mixture of Dry-Mortar Mix and Latex Additive: Mixture of pre-packaged dry-mortar mix and liquid-latex additive complying with the following requirements:
 - a. Latex Additive: Acrylic Resin
- D. Chemical-Resistant, Water-Cleanable, Ceramic Tile-Setting and Grouting Epoxy: ANSI A118.3.
 1. Provide product capable of resisting continuous and intermittent exposure to temperatures of up to 140°F and 212°F, respectively as certified by mortar manufacturer for intended use.

2.5 GROUTING MATERIALS

- A. Commercial Portland cement grout, complying with ANSI A118.6.
- B. Epoxy-Modified Grout Admixture, complying with ANSI A118.8.
- C. Color: As selected by the Architect.

2.6 ACCESSORIES

- A. The Contractor to supply all necessary base, cap edge corner, trim, or accessory tiles required for a complete installation.
- B. Latex Underlayment: Quick set type, as recommended by membrane manufacturer, as required to provide positive drainage to floor drains.
- C. Waterproof Membrane:
 1. General: Provide products that comply with ANSI A118.10.
 2. Polyethylene Sheet Waterproofing: Manufacturer's standard sheet material consisting of composite sheets, 60" wide by a nominal thickness of 0.030", composed of an inner layer of non-plasticized, chlorinated polyethylene sheet faced on both sides with laminated, high strength, non-woven polyester material, designed for embedding in latex-Portland mortar and as the substrate for latex-Portland mortar setting bed.
- D. Shower Pan Membrane (use at shower and drying rooms)
 1. Mud-Set Method: Shall be equal to "Chloraloy" 40 mil chlorinated polyethylene shower pan membrane by The Noble Co.

2. Thin-Set Method: Shall be equal to "Nobleseal TS" 30 mil chlorinated polyethylene sheet membrane as manufactured by The Noble Co.
- E. Caulking compounds shall be of the type specified in the caulking section of these specifications and compatible with the adjacent areas.
- F. Marble thresholds shall be used at all changes of materials, maximum of ½" thick to meet handicap requirements.
- G. Sealer – after cleaning, apply two coats of joint sealer per manufacturer's recommendations.
- H. Layout and pattern design should be determined by the Architect based upon an average of 4 colors per area or space designated to be tiled for both floor and wall.
 1. Primary Color – approx. 55%
 2. Secondary Color – approx. 25%
 3. Tertiary Color – approx. 15%
 4. Accent Colors – approx. 5%

PART 3 EXECUTION

3.1 INSPECTION:

- A. This Contractor shall notify the General Contractor when he has completed his work and is ready for inspection.

3.2 INSTALLATION:

- A. Tile shall be installed, per TCA F113-90 sloping to floor drains, where applicable, in accordance with ANSI specification A-108.5. Wall tile shall be installed per TCAW202-90.
- B. Tile shall be installed in grid pattern with continuous and properly aligned joints in all directions.
- C. Thresholds shall be installed at all wall openings where quarry tile abuts other floor finishes. Maximum threshold height ½" for HDCP requirements.
- D. Where tile abuts doorframes or other items of dissimilar material, a ⅛" joint shall be provided. The joints shall be caulked with caulking compound that matches grout.
- E. Tile shall be spaced on surfaces to be covered to a minimum width of one-half tile.
- F. Cutting of tile shall be with a masonry saw unless approval by the Architect is obtained for other cutting methods.
- G. Accent wall tile shall be installed level and true to line and flush with stucco surface.
- H. Floor tile in toilet rooms shall be epoxy grouted.

3.3 ADJUSTMENT AND CLEANING:

- A. Upon completion of the building, all finishes shall be free of all mars, dents, or other visible imperfections.

3.4 WARRANTY:

- A. This Contractor shall fully guarantee all materials and labor under this section for a period of one-year from date of final acceptance of the building against all defects in both workmanship and materials, and he shall promptly correct and/or replace such faulty work if so notified.

END OF SECTION