

SECTION 09300

TILE WORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install all tile work as indicated on Drawings.
- B. Types of tile work, in general, shall include the following:
 - 1. Porcelain floor and wall tile.

1.02 RELATED WORK

- A. GYPSUM WALLBOARD: Section 09250.
- B. VINYL COMPOSITION TILE: Section 09650.
- C. CARPET TILE: Section 09300.
- D. PAINTING: Section 09900.

1.03 QUALITY ASSURANCE

- A. Installer's Qualifications: Installation shall be performed only by a qualified installer with at least five (5) years' documented experience in installations of a similar nature.
- B. Reference Standards: Comply with provisions of the following, unless otherwise indicated or specified:
 - 1. Tile Council of America (TCA):
 - a. Handbook for Ceramic Tile Installation.
 - 2. American National Standards Institute (ANSI):
 - a. ANSI A108.10 "Specifications for Installation of Grout in Tile Work."
 - b. ANSI A118.4 "Specifications for Latex-Portland Cement Mortar."
 - c. ANSI A137.1 "Specifications for Tile."
 - 3. American Society for Testing and Materials (ASTM):
 - a. Referenced Standards.

- C. Source of Materials: Provide materials obtained from one source for each type and color of grout and setting materials.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical information and installation instructions for materials required, except bulk materials.
- B. Shop Drawings: Submit shop drawings indicating tile patterns and locations and widths of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces. Locate precisely each joint and crack in tile substrates by measuring, record measurements on shop drawings, and coordinate them with tile joint locations, in consultation with Architect.
- C. Samples: Submit samples of the following:
 - 1. Samples for each type of tile and for each color and texture required, not less than 12 inches square, on plywood or hardboard backing and grouted.
 - 2. Samples shall be representative of all color range extremities and individually identified by numbers placed on the samples.
 - 3. Installed materials shall match approved samples.
- D. Installer Qualifications: Submit documented evidence of installer's qualifications.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All tiles shall be graded and containers grade-sealed in accordance with minimum grade specifications established in ANSI A137.1.
- B. Deliver and store packaged materials in original containers with seals unbroken and labels intact until the time of use. Store and handle materials in a manner to prevent damage or contamination with water or foreign matter.

1.06 JOB CONDITIONS

- A. Always protect the adjoining surfaces and the work of other trades.
- B. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products:
 - 1. Tiles, Base, and Trim:
 - a. Provide products and sizes indicated on Drawings for all tile work.
 - 2. Grout:

- a. Bostik.
- b. Mapei Corp.
- c. Laticrete International, Inc.

2.02 MATERIALS, GENERAL

A. Porcelain Tile: Porcelain floor tile, wall tile, base, caps, coves, and all trim required:

1. Standard Grade conforming to ANSI A137.1.
2. Size: Refer to Drawings and/or to be selected.
3. Products: Refer to ID Drawings.
 - a. Cove base shall be minimum 1 inch x 1 inch x 2 inches. Provide at all restrooms and sanitary areas.
 - b. Wall Accent Strips: As shown on ID Drawings and/or to be selected.
 - c. Provide bullnose shape at door frames and outside corners (or acceptable joint).
 - d. Provide a bullnose at the top course of all walls to receive tile wainscot unless otherwise noted.
4. Colors: Refer to ID Drawings and/or to be selected.
5. Factory mount floor tile into units or sheets to facilitate handling and installation.

2.03 TILE AND SETTING AND GROUTING MATERIALS

A. Latex-Portland Cement Mortar: ANSI A118.1, composition as follows:

1. Manufacturer's standard latex additive (water emulsion), serving as replacement for part or all of gauging water, combined at job site with prepackaged dry mortar mix supplied or specified by latex additive manufacturer.

B. Latex-Portland Cement Grout: ANSI A118.6, composition as follows:

1. Manufacturer's standard latex additive (water emulsion) serving as replacement for part or all of gauging water, combined at job site with prepackaged dry grout mix supplied or specified by latex additive manufacturer.
2. Colors to be selected by Architect or interior designer from manufacturer's standard range.
3. Products: Provide one of the following:
 - a. "Hydroment Ceramic Tile Grout" with "Hydroment Multi-Purpose Acrylic Latex #425"; Bostik.

- b. "Laticrete Floor Grout and Joint Filler (Sanded)" and "Laticrete Dry-Set Wall Grout (Unsanded)" with "Laticrete Latex Grout Admix"; Laticrete International, Inc.
- c. "KER 200 Sanded Grout" for joints 1/8 inch or wider and "KER 800 Unsanded Grout" for joints less than 1/8 inch wide; Mapei Corp.

2.04 MISCELLANEOUS MATERIALS

A. One-Part Mildew Resistant Silicone Sealant:

- 1. ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and as applicable to nonporous joint substrates indicated, O; formulated with fungicide for sealing interior ceramic tile corners, and joints in and around ceramic tile with plumbing fixtures.
- 2. Products: Provide one of the following:
 - a. "Chem-Calk 900"; Bostik.
 - b. "Dow Corning 786"; Dow Corning Corp.
 - c. "Sanitary 1700"; GE Silicones.

B. Tile Cleaner: Product specifically acceptable to manufacturer of tile and grout manufacturer for application indicated and as recommended by the Ceramic Tile Institute of America (CTI).

C. Isolation Sheet: Provide a full coverage of an Isolation Sheet under all tile. NobleSeal TS composite sheet membrane manufactured by Noble Company of non-plasticized Chlorinated Polyethylene (CPE), nominal thickness of 30 mils, flexible synthetic elastomer with fabric laminated on both surfaces. Conforms to Thin-Bed waterproof membrane standard ANSI A118.10. Meets Heavy Duty Service requirements per ASTM C-627.

PART 3 - EXECUTION

3.01 INSPECTION AND PREPARATION

- A. Prior to commencement of work, all substrates to receive tile work shall be inspected to assure that the surfaces are ready for tile application. All surfaces shall be dry, clean and free of oily or waxy films. Do not proceed with work until surfaces and conditions comply with requirements indicated in referenced tile installation standard.
- B. Do not start work until Electrical and Mechanical work in or behind tile work have been installed.

3.02 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standard: Comply with applicable parts of ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Tile."
- B. TCA Installation Guidelines: TCA "Handbook for Tile Installation;" comply with TCA installation methods indicated or, if not otherwise indicated, as applicable to installation conditions shown.
- C. Determine location of all movement joints before starting tilework. Provide Isolation Sheet under all tile areas.
- D. Extend tile work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges, and corners without disruption of pattern or joint alignments. Extend accent tiles to abut door jambs. Use bullnose tiles at door jambs and outside corners (or acceptable corner joint).
- E. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so that plates, collars or covers overlap tile. Ensure that cut tiles occur in the most inconspicuous locations.
- F. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Layout tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise shown. Joints in floor tile and vertical joints in wall tile shall match.
- G. Grout tile to comply with ANSI A108.10, using grout materials indicated.
 - 1. Mix and install proprietary components to comply with grout manufacturer's directions.
- H. Provide Isolation Sheet over all slab/under tile.

3.03 INSTALLATION METHODS

- A. Install Tile to comply with requirements indicated below for setting bed methods, ANSI, and TCA installation methods related to types of substrate construction.
- B. Tile Floors:
 - 1. Latex-Portland Cement Mortar and Grout: ANSI A108.5.
 - a. Concrete Subfloors, Interior: TCA F113.
- C. Ceramic Tile Walls, Base, and Manufactured Trim:
 - 1. Latex-Portland Cement Mortar and Grout: ANSI A108.5.
 - a. Concrete Masonry Units, Interior: -TCA W202.
- D. Substrate.
 - A. Provide Cementitious Backer Units: ANSI A118.9, where indicated on the drawings, and elsewhere as required for walls as recommended substrate for tile.
 - 1. 5/8 inch (12 mm) WonderBoard Backerboard

3.04 CLEANING AND PROTECTION

- A. Upon completion of placement and grouting, clean all tile surfaces so they are free of foreign matter.
- B. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions, but not sooner than 14 days after installation. Protect metal surfaces, cast iron and vitreous plumbing fixtures from the effects of acid cleaning. Flush the surface with clean water before and after cleaning.
- C. Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective tile work.
- D. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with Kraft paper or other heavy covering during construction period to prevent damage and wear.
- E. Prohibit foot and wheel traffic from using tiled floors for at least 3 days after grouting is completed.

3.05 EXTRA STOCK

- A. Upon completion of work, deliver to the Owner extra tile of size and color used on the job, for use in future repair and maintenance work. Furnish tile in original boxes, properly marked, in quantities as listed below and in types and colors as directed.
 - 1. Floor and Wall Tile: 3 percent of total quantity of each color or an absolute minimum of six pieces each.

END OF SECTION 09300