

SECTION 09 3000

TILING

PART 1 GENERAL

1.1 SUMMARY

- A. Work of this Section consists of ceramic and stone tile installation with required substrate treatments, including but not limited to the following:
 - 1. Wall tile.
 - 2. Floor tile.
 - 3. Waterproofing and uncoupling membranes.
 - 4. Installation materials.
- B. Related Documents and Sections: Examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Other Documents and Sections that directly relate to work of this Section include, but are not limited to:
 - 1. General provisions of the Contract, including General and Supplementary Conditions, and Division 01 General Requirements Specification Sections.
 - 2. Section 06 1000 - ROUGH CARPENTRY.
 - 3. Section 07 9200 - JOINT SEALANTS.
 - 4. Section 09 2116 - GYPSUM BOARD ASSEMBLIES.
 - 5. Section 09 3033 - STONE TILING.
 - 6. Division 22, PLUMBING.
- C. Extra Material
 - 1. Provide packaged, wrapped and labeled maintenance stock equal to 5 percent of the actual quantity installed for each type of tile including trim units.
 - 2. Labeling: Date, vendor, installer, product name, mill, and installation location.

1.2 SUBMITTALS

- A. Product and System Data: Manufacturer's product literature, test reports and installation instructions.
- B. Samples: Provide two samples of each tile type to be installed in the Work.
- C. Qualification Data: For Installer.

1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Tile: ANSI A 137.1
- C. Tile Setting Materials: ANSI 118 series standard specifications.
- D. Tile Installation: ANSI 108 series standard specifications and Tile Council of America, Handbook for Ceramic Tile Installation.

E. Benchmarks:

1. Provide benchmark installations to verify final selections made under sample submittals and prototypes, to demonstrate aesthetic effects and set quality standards for materials and execution.
 - a. Install benchmark installations for each unit type in the Work as indicated by the Drawings or directed by the Architect.
2. Approved benchmark installations may be incorporated into the Work if accepted without exception by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement in ANSI A137.1 for labeling sealed tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store liquid installation materials in unopened containers and protected from freezing.

PART 2 PRODUCTS

2.1 GENERAL

- A. Manufactured tile shall conform with ANSI A137.1 with respect to abrasive wear, water absorption, bonding capability, thickness, facial dimensions, facial warpage, wedging, crazing, breaking strength and thermal shock, unless otherwise indicated.

2.2 TILE PRODUCTS

- A. Refer to Section 09 0600.

2.3 SETTING AND GROUTING MATERIALS

- A. Basis-of-Design Manufacturer: Laticrete International, or an Architect acceptable equivalent from one of the following:
 1. Mapei Corporation.
 2. Bostik, Inc.
 3. Custom Building Products.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.
 1. Obtain setting and grouting materials from single manufacturer.
 2. Obtain waterproof membrane from manufacturer of setting and grouting materials.
 3. Bonding flange drain shall be from same manufacturer of waterproofing membrane manufacturer or verified to be compatible with proposed waterproofing membrane.

2.4 INSTALLATION MATERIALS

- A. Waterproofing / Crack Isolation Membrane: ANSI A118.10 and ANSI A118.12.
 1. Liquid-Applied: ASTM C627 Performance Rating: Extra Heavy.
 - a. Basis-of-Design Product: Laticrete / Hydroban.

- B. Latex-Portland Cement Mortar; Thin-Set:
 - 1. Pre-packaged dry-mortar mix containing dry, re-dispersible, ethylene vinyl acetate additive to which only water must be added at jobsite. Mix water according to mortar manufacturer's directions.
 - 2. Porcelain Installations: Meet requirements of ANSI A118.11.
 - 3. Ceramic Tile Installations: Meet requirements of ANSI A118.4.
- C. Polymer Modified Grout: ANSI A118.7.
 - 1. Basis-of-Design Product: Laticrete / Permacolor.
 - a. Color: As selected by Architect from manufacturer's full range of colors.

2.5 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

2.6 ELASTOMERIC SEALANTS

- A. General: Provide sealants, primers, backer rods, and other sealant accessories that comply with the following requirements and with the applicable requirements in Section 07 9200 - JOINT SEALANTS and that do not stain stone.
 - 1. Sealants shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D.
 - 2. Use primers, backer rods, and sealant accessories recommended by sealant manufacturer.
 - 3. Colors: Provide colors of exposed sealants to match colors of grout in stone tile adjoining sealed joints unless otherwise indicated.
- B. One-Part, Mildew-Resistant Silicone Sealant: ASTM C920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.
 - 1. Products:
 - a. Laticrete Latasil, Color Matched Series.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free of oil and waxy films; and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
 - 2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units

- of work, and similar items located in or behind tile has been completed before installing tile.
3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.
- B. TCNA Installation Guidelines: TCNA's "Handbook for Ceramic Tile Installation." Comply with TCNA installation methods indicated in ceramic tile installation schedules.
- C. Extend tile work into recesses and behind equipment and fixtures to form complete covering without interruptions. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- D. 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 plates, collars, or covers overlap tile.
- E. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on base, walls are same size. Lay out tile work and center tile fields in both directions on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.

3.3 WATERPROOFING / CRACK ISOLATION MEMBRANE INSTALLATION

- A. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness and bonded securely to substrate.
- B. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness and bonded securely to substrate.
- C. Do not install tile or setting materials over membrane until fully cured and successfully passed flood tests where required.

3.4 WALL TILE INSTALLATION

- A. Interior Wall Installations, Metal Studs or Furring:
 1. Tile Installation W243: Thin-set mortar on gypsum board; TCA W243.
 - a. Thin-Set Mortar: Latex- portland cement mortar.
 - b. Grout: Polymer-modified unsanded grout.

3.5 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 1. Remove grout residue from tile as work progresses, in strict accordance with manufacturer's recommendations.

END OF SECTION