

SECTION 093013 – CERAMIC TILING

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 this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Porcelain paver tile.
 - 2. Glazed wall tile.
 - 3. Marble thresholds and window sills.
 - 4. Crack suppression membrane.
 - 5. Urethane Grout.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of product specified.
- C. Samples for initial selection purposes in form of manufacturer's color charts consisting of actual tiles or sections of tile showing full range of colors, textures, and patterns available for each type and composition of tile indicated. Include samples of grout and accessories involving color selection.
- D. Samples for verification purposes of each item listed below, prepared on samples of size and construction indicated. Where products involve normal color and texture variations, include sample sets showing the full range of variations expected.
 - 1. Each type and composition of tile and for each color and texture required, at least 12 inches square, mounted on plywood or hardboard backing and grouted.
 - 2. Full-size units of each type of trim and accessory for each color required.

1.4 QUALITY ASSURANCE

- A. Single-Source Responsibility for Tile: Obtain each color, grade, finish, type, composition, and variety of tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

- B. Single-Source Responsibility for Setting and Grouting Materials: Obtain ingredients of a uniform quality from one manufacturer for each cementitious and admixture component and from one source or producer for each aggregate.
- C. Installer Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for Project.

1.5 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 of ANSI A137.1 for labeling sealed tile packages.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.

1.7 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials that match products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Reference Sheet A3.00 – FINISH LEGEND.

2.2 PRODUCTS, GENERAL

- A. ANSI Standard for Ceramic Tile: Comply with ANSI A137.1 "American National Standard Specifications for Ceramic Tile" for types, compositions, and grades of tile indicated.

1. Furnish tile complying with "Standard Grade" requirements unless otherwise indicated.
- B. ANSI Standard for Tile Installation Materials: Comply with ANSI standard referenced with products and materials indicated for setting and grouting.
- C. Colors, Textures, and Patterns: Reference Sheet A3.00 – FINISH LEGEND.
- D. Factory Blending: For tile exhibiting color variations within the ranges selected during sample submittals, blend tile in factory and package accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples.
- E. Mounting: Where factory-mounted tile is required, provide back- or edge-mounted tile assemblies as standard with manufacturer unless another mounting method is indicated.

2.3 TILE PRODUCTS

- A. Porcelain Paver Tile: Reference Sheet A3.00 – FINISH LEGEND.
- B. Glazed Wall Tile: Reference Sheet A3.00 – FINISH LEGEND.
- C. Trim Units: Reference Sheet A3.00 – FINISH LEGEND.

2.4 STONE THRESHOLDS

- A. General: Provide stone that is uniform in color and finish, fabricated to sizes and profiles indicated or required to provide transition between tile surfaces and adjoining finished floor surfaces.
- B. Marble Thresholds: Provide marble thresholds complying with ASTM C 503 requirements for exterior use and for abrasion resistance where exposed to foot traffic, a minimum hardness of 10 per ASTM C 241.
 1. Provide white, honed marble complying with MIA Group "A" requirements for soundness.
- C. Window Sills: White marble, minimum 1/2" thick.

2.5 SETTING MATERIALS

- A. Thin Set Latex Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A118.4 and as specified below.
 - 1. Mixture of Dry-Mortar Mix and Latex Additive: Factory-mixed formulation of mix and additive.
- B. Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A108.1A.
- C. Wall Base Adhesive: Construction adhesive for securing tile base to gypsum board (except at showers). Do not use thin set mortar for securing porcelain paver tile base to walls.
 - 1. Product: Liquid Nails Ceramic Wall and Floor Tile Adhesive.

2.6 GROUTING MATERIALS

- A. Urethane Grout: Pre0-mixed urethane grout with integral antimicrobial agent in color as selected by Architect from manufacturer's full range. Provide the following:
 - 1. TruColor RapidCure Urethane Grout, Bostick, Inc.

2.7 CRACK SUPPRESSION MEMBRANE

- A. Flexible "Peel-and-Stick" Sheet: Provide a highly flexible elastomeric, self-bonding, pressure-sensitive sheet membrane system for crack isolation that is compatible with latex-modified thinset mortars. Provide one of the following:
 - 1. Mapelastic SM, Mapei
 - 2. ECB Membrane, National Applied Construction Products, Inc.
 - 3. Schluter – KERDI, Schluter Systems

2.8 GROUT RELEASE

- A. Temporary Protective Coating: Product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products; and easily removable after grouting is completed without damaging grout or tile.
 - 1. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile. Provide one of the following:
 - a. "Grout Release," Aqua Mix.
 - b. "SL-90 Summit Shield Grout Release," Summitville.
 - c. "Grout Easy," Aldon.
 - d. "Super Grout Release," Klein and Company, Inc.

2.10 MISCELLANEOUS MATERIALS

- A. Temporary Protective Coating for Porcelain Paver Tile: Provide product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; is compatible with tile, mortar, and grout products; and is easily removable after grouting is completed without damaging grout or tile.
 - 1. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as a temporary protective coating for tile.

2.11 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with requirements of referenced standards and manufacturers including those for accurate proportioning of materials, water, or additive content; type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortars and grouts of uniform quality with optimum performance characteristics for application indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates and areas 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, and free from oil or waxy films and curing compounds.
 - 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.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Blending: For tile exhibiting color variations within the ranges selected during sample submittals, verify that tile has been blended in factory and packaged accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standard: Comply with parts of ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile" that apply to type of setting and grouting materials and methods indicated.
- B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated.
- C. 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 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 that plates, collars, or covers overlap tile.
 - 1. Porcelain paver wall base shall be mitered at inside and outside corners. Ease cut edges at miters.
- E. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out 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.
 - 1. 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.
- F. Expansion Joints: Locate expansion joints complying with TCA installation methods recommended or structural drawings and field verify.
 - 1. Provide sealant-filled joints in tile directly above expansion joints in slabs. Use 1 or 2 part pourable polyurethane sealant for Use T in color selected by architect. Follow Tile Council of America Handbook for Ceramic Tile Installation details.
 - 2. Tile expansion joints are not required at concrete slab control joints which are to receive crack suppression membrane.
- G. Grout tile to comply with the requirements of the following installation standards:
 - 1. For ceramic tile grouts comply with ANSI A108.10.
 - 2. Apply grout release when installing porcelain paver tile.

3.4 FLOOR INSTALLATION METHODS

- A. Porcelain Paver Tile for Thin Set Installation Over Concrete Slabs: Install tile to comply with requirements indicated below for setting bed methods, TCA installation method and grout types:

1. Latex – Portland Cement Mortar: Installation Specification – ANSI A108.5.
2. Grout: Urethane grout: Install per manufacturer's directions.
3. TCA Installation Method F113.

- B. Thick set locations: at Restrooms (where a floor depression is indicated), and wherever a floor sloped to a drain is indicated in the construction documents. Tile Installation: Interior floor installation on concrete; cement mortar bed (thickset); TCA F112.

3.5 WALL TILE INSTALLATION METHODS

- A. Install types of tile designated for wall application to comply with requirements indicated below for setting-bed methods, TCA installation methods related to subsurface wall conditions, and grout types:

1. Thin-set latex-Portland Cement Mortar: Installation Specification-ANSI A108.5.
2. Grout: Urethane grout: Install per manufacturer's directions.
3. TCA Installation Method B420 for glass mat tile backer board. Install sanitary cove base flush with floor tile – do not set base on top of floor tile.
4. Secure porcelain paver tile base to drywall partitions using construction adhesive applied in accordance with manufacturer's instructions using V-type trowel with notches 3/16" deep.

3.6 CLEANING AND PROTECTION

- A. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove latex-Portland cement grout residue from tile as soon as possible.
2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions, but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
1. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer.

- B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.

- C. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer that ensure that tile is without damage or deterioration at time of Substantial Completion.

1. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.

2. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.
- D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION 093013