

SECTION 09310
CERAMIC TILE

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

- A. The general provisions of the Contract, including General and Supplementary Conditions and Division 1 - General Requirements, apply to work specified in this Section.

1.02 SUMMARY

- A. This Section includes ceramic tile on the floor of the elevator cab.
- B. Alternates: Work of this Section is part of the elevator alternate. Refer to Section 01230.
- C. Related Work specified in Other Sections:
 - 1. Installation of plywood subfloor: Section 14240.

1.03 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: For tile installed on level walkway surfaces, provide products with static coefficient friction of 0.6 or greater, as determined by testing identical products per ASTM C 1028.

1.04 SUBMITTALS

- A. Product Data: For tile and setting bed materials.
- B. Samples for Initial Selection: For tile and grout.
- C. Samples for Verification: Full size tile.
- D. Product Certificates: For each type of product, signed by product manufacturer.

1.05 QUALITY ASSURANCE

- A. Source Limitations: Obtain all tile from a single manufacturer; obtain setting and grouting materials from a single manufacturer.

1.06 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 aggregates where grading and other required characteristics can be maintained and contamination avoided.

- D. Store liquid latexes and emulsion adhesives in unopened containers and protected from freezing.

1.07 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

1.08 EXTRA MATERIALS

- A. Furnish extra tile and trim units, full size, in quantity equal to 10% of the quantity installed. Packaged extra materials with protective covering for storage and identify with labels describing contents.

PART 2 - PRODUCTS

2.01 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard grade requirements, unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting and Grouting Materials" Article.
- C. Factory Blending: For tile exhibiting color variations within ranges selected during Sample submittals, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- D. Factory-Applied Temporary Protective Coating: If recommended by tile manufacturer for tile type specified, to prevent staining by grout of type specified, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.02 TILE PRODUCTS

- A. Unglazed Paver Tile : Vitreous impervious porcelain tile, nominal 18" x 18" face size by 5/8" thick, plain face with square or cushion edges, and unpolished, slip-resistant texture, but no abrasives.
 - 1. Products: Subject to compliance with requirements, furnish one of the following products.
 - a. Ceramica Magica, "Coral Reefs."
 - b. Floor Gres, "Chromwork."
 - c. Graniti Fiandre, "Slate Series."
 - d. American Florim/Florim USA "Denali" or "Escapades."
 - 2. Colors: As selected by Architect from manufacturer's full range.

2.03 SETTING AND GROUTING MATERIALS

- A. Manufacturers:
 - 1. Boiardi Products Corporation.
 - 2. Bonsal, W. R., Company.
 - 3. Bostik.
 - 4. C-Cure.
 - 5. DAP, Inc.
 - 6. LATICRETE International Inc.
 - 7. MAPEI Corporation.
- B. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.1 and as specified below.
 - 1. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15), or polyethylene sheeting ASTM D 4397, 4.0 mils thick.
 - 2. Reinforcing Wire Fabric: Galvanized welded wire fabric, 0.062 inch diameter, 2-inch by 2-inch mesh ; comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
 - 3. Latex Additive: Manufacturer's standard acrylic resin water emulsion, serving as replacement for part or all of gauging water, of type specifically recommended by latex additive manufacturer for use with field-mixed portland cement and aggregate mortar bed.
- C. Polymer-Modified Tile Grout: ANSI A118.7, prepackaged dry grout mix with sand, gauged with acrylic resin in liquid-latex form.
 - 1. Color: To be selected by the Architect from approved manufacturer's full range of standard colors.

2.04 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile -setting materials for installations indicated.
- B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

2.05 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.

PART 3 - EXECUTION

3.01 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 subfloor is firm; dry; clean; free of oil, waxy films, and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Remove dust and dirt from substrate; remove coatings that are incompatible with tile-setting materials.
- B. Blending: For tile exhibiting color variations within ranges selected during Sample submittals, verify that tile has been factory blended and packaged so tile units taken from one package show same range of 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.

3.03 TILE INSTALLATION

- 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. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. Porcelain Paver Tile set with Cement Mortar over Wood Subfloor (Elevator Car): TCA F141.
 - 1. Substrate: 2 layers of 5/8" thick plywood, provided under Section 14240.
 - 2. Setting Bed: Reinforced mortar bed, 1-1/2" to 2" thick, over cleavage membrane.
 - 3. Bond Coat: Portland cement paste on a mortar bed that is still workable, or latex-portland cement mortar on a cured bed.
 - 4. Grout: Polymer modified tile grout, ANSI A118.7.
- D. Cut and drill tile as required to fit the installation 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 penetrations so plates, collars, or covers overlap tile.
- E. Jointing Pattern: Lay tile in grid pattern, with uniform 1/4" joint width. Lay out tile work so that cut tiles are placed only at the perimeter, and no cut tile is smaller than 9" in its shortest dimension.

- F. Follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage under floor tile. Back butter tile to provide full support under tile with 95% to 100% coverage. Before applying mortar to the tile, clean back of tile by wiping with a clean, slightly damp, towel or sponge to remove dust, dirt and residue. Just before laying each tile, apply a layer of fresh mortar to the back of the tile with a flat-edged trowel, applying pressure to fill grooves and profiles and to provide 100% mortar coverage, including perimeter edges and corners. Firmly push and twist mortared tiles into the wet bed and beat or vibrate tiles to secure the bond and eliminate voids.

3.04 CLEANING AND PROTECTING

- A. Cleaning: As soon as possible after completion of placement and grouting, but no sooner than 10 days after installation, clean ceramic tile surfaces to remove foreign matter and grout residue.
 - 1. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces from effects of cleaning. Rinse tile with clean water before and after cleaning.
 - 2. If temporary protective coating was applied, remove it by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from seeping through tile to subfloor or elevator pit.
- B. Protect installed tile with kraft paper or other heavy covering during the remainder of the construction period to prevent staining, damage, and wear. Before final inspection, remove protective coverings.
- C. Keep foot and wheel traffic of tiled floor for at least seven days after grouting is completed.

END OF SECTION 09310