

Seaside Rehabilitation and Health Care Center  
Portland, Maine

SECTION 093100 - TILE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
  - 1. Ceramic mosaic tile.
  - 2. Stone thresholds installed as part of tile installations.
  - 3. Waterproof membrane for tile installations.
  - 4. Crack-suppression membrane for thin-set tile installations.
- B. Related Sections include the following:
  - 1. Division 03 Section "Cast-In-Place Concrete" for monolithic slab finishes specified for tile substrates.
  - 2. Division 22 Sections for floor drains.

1.3 SUBMITTALS

- A. General: Submit in accordance with Division 01 Section "Submittal Procedures."
- B. Product Data: For each type of product indicated.
  - 1. For adhesives and sealants, include a printed statement of VOC content.
- C. Samples for Initial Selection: For each type of grout indicated consisting of actual products showing full range of colors available. Include Samples of accessories involving color selection.
- D. Test Results: Provide results of waterproof membrane flood tests.

1.4 QUALITY ASSURANCE

- A. Source Limitations for Tile: Obtain all tile of same type and color or finish from one source or producer.
  - 1. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section through one source from a single manufacturer for each product:
  - 1. Stone thresholds.
  - 2. Waterproofing.
  - 3. Crack-suppression membrane.

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- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."
  - 1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.
  - 2. Assemble all trades working at Project site to coordinate the work and to prevent workers from walking on newly installed tiles for required setting bed and grout cure times. Contractor to coordinate project schedule to complete work by other trades and vacate areas receiving floor coverings, stopping pedestrian traffic over newly installed flooring installation until curing and drying period is complete. Contractor shall conduct periodic coordination meetings with all trades to review schedule and procedures to prevent interference and damage during installation and curing and drying periods of floor coverings.

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 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.
  - 1. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.
- C. Store liquid materials in unopened containers and protected from freezing.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient and substrate temperatures and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.
  - 1. Maintain temperatures at 50 deg F or more in tiled areas during installation and for 7 days after completion, unless higher temperatures are required by referenced installation standard or manufacturer's instructions.
- B. Vent temporary heaters to exterior to prevent damage to tile work from carbon dioxide buildup.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
  - 1. Products: Subject to compliance with requirements, provide one of the products specified.
  - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 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.

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- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCA installation methods specified in tile installation schedules, and other requirements specified.
- C. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer, unless otherwise indicated.
  - 1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

### 2.3 TILE PRODUCTS

- A. Glazed Ceramic Mosaic Tile, F-4: Factory-mounted flat tile as follows:
  - 1. Composition: Porcelain.
  - 2. Module Size: 1 by 2 inches field tile with 1 by 1 inches dot.
  - 3. Thickness: 1/4 inch.
  - 4. Face: Plain with cushion edges.
  - 5. Surface: Smooth, without abrasive admixture.
  - 6. Finish: Satin glaze for 1 by 2 inches field tile with gloss glaze 1 by 1 inches dot.
  - 7. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
    - a. Base Trim: Cove base with two rows of tile, top row with surface bullnose; 2 inch by 2 inch tile.
  - 8. Product: American Olean, Div. of Dal-Tile International Inc.; as follows:
    - a. Floor Tile: Chloe Series; Satin White CH99 Blank Pinwheel with glass dot Opal CH13.
    - b. Base Trim: Satinglo Series, Model S3419, Satin White to match tile in Chloe Series.

### 2.4 THRESHOLDS

- A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes. Provide stone that is uniform in color and finish.
  - 1. Bevel edges at 1:2 slope, aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to 1/2 inch or less, and finish bevel to match face of threshold.
- B. Marble Thresholds: ASTM C 503 with a minimum abrasion resistance of 12 per ASTM C 1353 or ASTM C 241 and with honed finish; ADA compliant.
  - 1. Comply with MIA Group "A" for soundness.
  - 2. Size: 3/8-inch thick by required one-piece length.
  - 3. Description: Uniform, fine- to medium-grained white stone with gray veining.
  - 4. Material: Carrara White marble.

### 2.5 WATERPROOF MEMBRANE FOR THIN-SET TILE INSTALLATIONS

- A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
  - 1. Products shall be compatible for use with radiant heat.

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- B. Fabric-Reinforced, Fluid-Applied Membrane: System consisting of liquid-latex rubber or elastomeric polymer and continuous fabric reinforcement; products shall be compatible for use with radiant heat.
  - 1. Products:
    - a. LATICRETE International Inc.; Laticrete 9235 Waterproof Membrane.
    - b. MAPEI Corporation; Mapelastic L (PRP M19).

## 2.6 CRACK ISOLATION MEMBRANE FOR THIN-SET TILE INSTALLATIONS

- A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
  - 1. Products shall be compatible for use with radiant heat.
- B. Fabric-Reinforced, Fluid-Applied Membrane: System consisting of a two-part, liquid rubber and fabric reinforcement.
  - 1. Products:
    - a. Laticrete International, Inc.; Laticrete Blue 92 Anti-Fracture Membrane.

## 2.7 SETTING AND GROUTING MATERIALS

- A. Manufacturers:
  - 1. LATICRETE International Inc.
  - 2. MAPEI Corporation.
- B. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4, consisting of the following:
  - 1. New concrete slabs have radiant heat.
  - 2. Prepackaged premium dry-mortar mix combined with acrylic resin liquid-latex additive and containing Microban for mold- and mildew-resistance.
    - a. Provide white mortar due to glass tile dot accent.
    - b. Product: Laticrete International, Inc.; Laticrete 254 Platinum.
- C. Chemical-Resistant, Water-Cleanable, Tile--Grouting Epoxy: ANSI A118.3, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  - 1. High performance, epoxy grout containing Microban for mold- and mildew-resistance.
  - 2. Grout Color: As selected by Architect from manufacturer's full range of colors.
  - 3. Product: Laticrete International, Inc.; SpectraLock PRO Grout.

## 2.8 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.

## 2.9 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions, including those for accurate proportioning of materials,

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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.

- B. 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

#### 3.1 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. Check flatness of substrate by laser or straight edge. Level floor to provide a base for thin set that allows for a smooth, flat floor without irregularities. Verify proper drainage to drains. Grinding high spots until substrate is acceptable to the flooring Installer is specified in Division 03 Section "Cast-in-Place Concrete."
  - 2. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
  - 3. Verify that concrete substrates for tile floors installed with thin-set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
    - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
    - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
  - 4. 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. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.
- B. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

#### 3.3 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.

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- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions, unless otherwise indicated. 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. Top setting of coved base is not permitted.
- E. Tile shall lay flat and each edge flush with adjacent tile, free of tilting and skewed tile. Provide additional setting material to shim accent tiles that are thinner than field tiles so face is in same plane.
- F. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. 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 indicated.
  - 1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
- G. Grout tile to comply with requirements of the following tile installation standards:
  - 1. For ceramic tile grouts (latex-portland cement grouts), comply with ANSI A108.10.

3.4 WATERPROOFING AND CRACK-SUPPRESSION MEMBRANE INSTALLATION

- A. Install waterproofing to comply with ANSI A108.13 and waterproofing manufacturer's written instructions to produce waterproof membrane of uniform thickness bonded securely to substrate.
- B. Install crack-suppression membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness bonded securely to substrate.
- C. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.
  - 1. Provide temporary seal at door openings. Plug floor drains and flood test waterproof membrane installation with 1 inch of water for 24 hours. Inspect slabs and room perimeter for water leaks.
    - a. Test 6 bathrooms, selected at random for flood testing. If all spaces pass, then additional testing will not be required. If a leaks is found in one of the installations, then all rooms receiving waterproofing shall be tested.

3.5 FLOOR TILE INSTALLATION

- A. General: Install tile to comply with requirements in the Floor Tile Installation Schedule, including those referencing TCA installation methods and ANSI A108 Series of tile installation standards.
  - 1. For tile installations in wet areas, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.

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- B. Joint Widths: Install tile on floors with the following joint widths:
  - 1. Ceramic Mosaic Tile: 1/8 inch.

### 3.6 CLEANING AND PROTECTING

- A. Remove and replace material that is stained or otherwise damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- B. Cleaning: On 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. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. 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 and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
- C. When recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
- D. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- E. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

### 3.7 TILE INSTALLATION SCHEDULE

- A. Ceramic Tile over Concrete Floors on Grade with Radiant Heat, Toilet Rooms: Thin-set latex portland cement mortar over anti-fracture membrane applied to saw cuts and random cracks, TCA RH110 modified.
  - 1. Seal perimeter of room by running waterproof membrane up wall 2 inches minimum and out on the floor 4 inches.
- B. Ceramic Tile over Concrete Floors with Radiant Heat and Occupied Rooms Below: Latex portland cement mortar, waterproof membrane, TCA RH110A.
  - 1. At bathrooms and spa, seal perimeter of room by running waterproof membrane up wall 2 inches minimum.

END OF SECTION 093100