

DIVISION 9 FINISHES

09300 CERAMIC TILE

Part 1 – General

1.1 WORK

- A. Provide all labor and materials required to complete the tile work as listed on the **Scope**, and as specified herein.
- B. When work involves repair and removal of plaster, drywall, or other painted components in excess of 2 square feet total, work shall comply with [Section 01810 Lead Dust Hazards](#).

1.2 QUALITY STANDARDS

- A. Provide experienced, well-trained workers competent to complete the work as specified.
- B. All work shall comply with manufacturer's instructions and governing building codes.
- C. Provide a certified lead abatement supervisor and certified lead abatement workers per [Section 01810 Lead Dust Hazards](#), if work will involve the removal or disturbance of painted components in excess of 2 square feet.

1.3 SUBMITTALS

- A. Do not start work until **Owner** has approved and signed the Owner's Selection Sheet (Appendix A).
 - Supply **Owner** with samples of standard tile color, pattern, and style selections.
 - Provide a copy of the **Owner's** written color selection to **Agency**.
 - Submit to **Owner** manufacturer's flooring care and cleaning instructions, and warranty.

1.4 MATERIALS HANDLING

- A. Provide all materials required to complete the work.
 - Deliver and transport materials to avoid damage to the product or to any other work.
 - Return any products or materials delivered in a damaged or unsatisfactory condition.
 - Materials and products shall be new and delivered materials will be certified by the manufacturer to be as specified.
 - Packaging must be sealed with clear manufacturer and identification markings.
- B. Store ceramic tile and related materials in work area:
 - Protected from weather or moisture.
 - Protected from construction damage.
 - Protected from occupant traffic.

PART 2 – MATERIALS

2.1 TILE AND ACCESSORIES

- A. Tile:
 - Shall comply with Tile Council of America Specification 137.1.
 - Colors, textures, and patterns will be as selected by the **Owner** from standard and readily available local suppliers.
 - Tile shall be selected for use per manufacturer's instructions.
 - Delivered tile shall match samples selected by **Owner**.
 - Floor tile shall have coefficient of friction not less than 0.50 as per ASTM F489, ASTM F609.
- B. Provide all accessory shapes to complete the work as listed of the **Scope** and as specified herein.

2.2 SETTING MATERIALS

- A. Comply with Tile Council of America "Handbook for Ceramic Tile Installation".
- B. Latex-portland cement mortar as per ANSI A118.4.

- C. Organic Adhesive as per ANSI A136.1.
- Type I where subject to extended water exposure.
 - Type II at all other locations.

2.3 GROUT

- A. Comply with Tile Council of America “Handbook for Ceramic Tile Installation”.
- B. Colors will be selected by **Owner** from standard colors available from approved manufacturers.
- C. Portland cement grout:
- Use mixture of portland cement and other materials manufactured for this purpose.
 - Grout must comply with tile manufacturer’s instructions.

2.4 OTHER MATERIALS

- A. Provide all other materials, required for a complete, proper installation.
- B. Adhesive, sealant, and grout as per applicable trade standards and tile manufacturer’s instructions.
- Delivered in new unopened containers.
 - With correct color additives.
- C. Provide non-corrosive lath:
- Zinc-coated
 - Lapped
 - Tied with zinc-coated fasteners.
- D. Tile backer board – cement boards:
- Installed as an underlayment for wall tile.
 - Minimum thickness ½ inch.
 - Installed per manufacturer’s instructions.
- E. Install all necessary waterproofing per manufacturer’s instructions including all:
- Primer.
 - Felt.
 - Waterproof membrane.
 - Sealant.
 - Waterproof sheet metal work.
 - Underlayment.

PART 3 – INSTALLATION

3.1 PREPARATION

- A. Keep work surfaces and working environment:
- Clean.
 - Dry.
 - Well lighted.
 - Well ventilated.
 - Free of airborne construction dust.
 - At comfortable working temperature per manufacturer’s instructions.
- B. For accessories and other work:
- Provide supports for fixtures and related construction including wall blocking, backing, inserts, and anchors.
 - Premark and double-check locations for accessories to be installed.
 - Set accessories in place before beginning tile work.
 - Put in place and properly position, work of related trades such as electrical boxes, switches, stub ups, drains, and other plumbing.
- C. Install all support framing, furring, and backing plumb, square, aligned, and secured so that surfaces will not move or deflect.
- D. Prepare floors for tiling so the finish floor will be either perfectly level or slope properly to drains.
- E. Work preparation:
- Install backer board (cement board) securely, in line with surrounding wall plane.
 - Install waterproofing and backing that will absolutely block water leakage.

- Install control joints and edge strips.
- Securely fasten all components.
- Sized and shaped exactly to fit finished tile work.
- Set layout start points to achieve tile patterning that is symmetrical, complete, planned for minimal and balanced tile cutting.
- Include trim, edge, and base shapes with materials that match other tiles and are free of irregularities.

3.2 INSTALLATION

- A. Work standards and conditions:
- Comply with Tile Council of America “Handbook for Ceramic Tile Installation”.
 - Comply with manufacturer’s instructions.
 - Work temperature must be as per instructions of materials manufacturers.
- B. Limits of tile application:
- Extend tile into recesses and under and behind future equipment or fixtures.
 - Tile must be installed as a complete, uninterrupted covering.
 - Edges and corners must be terminated neatly without disruption of pattern or joint alignment.
 - Terminate tile neatly at obstructions or penetrations of other work.
- C. Joint pattern:
- Lay tile in standard grid unless otherwise specified in **Scope**.
 - Align joints of adjoining same size tiles on floor, base, walls, and trim.
 - In tile layout, center field tile in both directions on floors or walls.
 - Adjust layout and pattern to minimize tile cutting.
 - Joint widths must be consistent and uniform.
- D. Patching existing tile:
- Match existing size, pattern, shape, and layout as closely as possible.
 - Tile shall match as closely as possible the size, thickness, shape, finish, and color of surrounding tile.
 - Grout shall match as closely as possible to existing grout, in color and type.
- E. Provide expansion and joint controls:
- As instructed by the Tile Council of America “Handbook for Ceramic Tile Installation”.
- F. Standards of work quality:
- Fit special border tiles squarely without cuts.
 - Perfectly match tiles pieces with other tile work, trim, bases, tile accessories.
 - Prepare tile according to manufacturer’s instructions, presoak, dry surfaces, clean, etc.
 - Plan and install correct patterning that’s symmetrical, complete, square to floor or wall.
 - Apply tile surface smoothly and free of irregularities, humps, and dips.
 - Install tile joints straight, level horizontally, aligned and exact vertically and uniform in size.
 - Use extra care at difficult areas such as corners, fixture locations, around wall openings and recesses, at penetrations such as floor drains, door and window trim.
 - Make tile cuts minimal, uniform, not smaller than half a tile.
 - Complete grouted or thin-set adhesion so no tiles can be pulled loose.
 - Do not allow tile at door thresholds to interfere with closure.
 - Do not use broken or cracked tiles.

3.3 PROTECTION, CLEANING, AND REPAIR

- A. Completely protect finished tile, and allow no damage to the work.
- B. Cleaning:
- Wash tile surfaces with clean water before and after cleaning.
 - Use cleaning solutions and materials as per manufacturer’s instructions.
 - Do not use acidic cleaners near finish metal or other vulnerable surfaces.
 - Remove excess corrosive cleaning solutions from site, do not empty into building drains.
- C. Repair and replace defective work. Reject tiles and replace if:
- Chipped.
 - Scratched.
 - Cracked.
 - Popped up.

- Loose.
 - Stained.
 - Miss-aligned.
- D. Repair or replace all defective and non-conforming work as directed by **Inspector**. All repairs shall be undetectable.

END OF SECTION – 09300 CERAMIC TILE