

**SECTION 09 31 0  
CERAMIC TILE**

**PART 1.00 - GENERAL**

**1.01 REFERENCE STANDARDS**

- A. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2023.
- B. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 2019.
- C. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.

**1.02 RELATED DOCUMENTS**

- A. The Contractor is referred to the "Instructions to Bidders and General Conditions, NYCHA Contracts", latest edition; the "Special Notice to Contractors"; the "Form of Proposal"; the "Form of Bid Bond"; "Division 01 - General Requirements" of the Contract Specifications"; the "Contract Drawings" and all Amendments and Addenda thereto; all of which govern the Work of this Section.

**1.03 SCOPE OF WORK**

- A. The Work of this Section includes all labor, materials, equipment and services necessary to complete the new bathroom ceramic tile installation and related work in renovated/reconfigured apartments as indicated on the Drawings and/or specified herein including, but not limited to, the following:
  - 1. Ceramic mosaic floor tile thin-set with leveling underlayment on existing concrete floor slabs (water closets to be temporarily disconnected, removed and reset to permit floor/base tile replacement – coordinate installation as required and provide temporary floor protection in occupied apartments to permit interim use of bathrooms by residents).
  - 2. Glazed ceramic base tile thin-set on existing plaster/new tile backer board walls.
  - 3. Marble saddles at entrance doorways.
  - 4. Spare floor/base tile (5% of each type) for future replacement purposes.
  - 5. Provide all other labor and materials as may be reasonably inferred to be required to make the Work of this Section complete.

**1.04 RELATED WORK SPECIFIED ELSEWHERE**

- A. The following Sections/Divisions contain requirements that relate to the Work of this Section
  - 1. Section 02 05 00 – Selective Demolition / Removals
  - 2. Section 07 90 00 – Joint Sealants
  - 3. Section 09 21 00 – Lath / Plaster
  - 4. Section 09 25 00 – Gypsum Wallboard System
  - 5. Division 15 - Plumbing

**1.05 GENERAL REQUIREMENTS**

- A. Tile installation work shall comply with Handbook for Ceramic Tile Installation (latest edition), published by the Tile Council of America (TCA).

**PART 2.00 – PRODUCTS**

**2.01 MATERIALS**

**2.02 TILE MATERIALS**

- A. General: Tile shall be of domestic manufacture complying with the "Standard Grade" requirements of ANSI A137.1 "American National Standard Specifications for Ceramic Tile."
  - 1. Floor tile shall be ceramic mosaic porcelain, unglazed, slip-resistant, impervious with max. 0.5% absorption, with cushioned edge to be installed with 1/16" grout joint, size 1" x 1" square x 1/4" thick, as manufactured by American Olean Tile Co. or approved equal.

2. Base tile shall be ceramic, matte-glazed, bullnose type, with cushioned edge to be installed with 1/16" grout joint, size 6" x 6" x 5/16" thick, as manufactured by American Olean or approved equal.

### **2.03 SETTING MATERIALS (FLOOR TILE)**

- A. Bonding Agent: Shall be a specially blended primer to be applied to surface of exposed clean concrete floor slabs to permit proper adherence of leveling layer. Drying time shall be approx. 3 – 4 hrs. at normal room temperature. Primer shall be LevelLayer Bonding Agent (J-42) by Dayton Superior Specialty Chemical Corp. or approved equal.
  1. Floor Underlayment: Shall be a cement-based, non-shrinking, self-leveling, pumpable, single-component product resulting in a smooth subfloor walkable in approx. 4 hrs. and ready to accept floor covering in approx. 14 hrs. after installation at normal room temperature. Leveling underlayment shall be fully compatible with aforementioned bonding agent. Product shall be LevelLayer I by Dayton Superior or approved equal.
- B. Thin-Set Mortar (Floor/Base Tile)
  1. Mortar shall be single-component, ultra-high performance, polymer-modified, rapid-setting type intended for floor and wall installations. Mortar shall comply with ANSI A118.4 requirements. Product shall be Ultra/Flex RS by Mapei Corp. or approved equal.
- C. Grouting Material (Floor/Base Tile)
  1. Grout shall be polymer-modified, cement/sand compound, non-staining type with a compressive strength of 3000 psi after 24 hrs. Grout shall comply with ANSI A118.6 requirements. Product shall be Keracolor "S" by Mapei or approved equal.
  2. Marble Saddles:
    - a. Saddles at bathroom doorways shall be white Tennessee marble or approved equal of standard grade, sound and durable stock free from cracks and other defects. Saddles shall consist of one (1) single piece for each opening, approx. 2'-0" long (V.I.F.), 1" nom. thick, width to match existing door frame (V.I.F.) wherever possible with ends notched to follow the profile of the frame and double 1/4" bevel.
  3. Colors:
    - 1) Colors for floor/base tile and grout shall be selected by the Authority from the manufacturer's standard range of colors. Only one color for each product shall be chosen for the Development.

## **PART 3.00 – EXECUTION**

### **3.01 PREPARATION**

- A. After temporary disconnection and removal of existing water closets for later reinstallation, and removal of all existing ceramic floor/base tile, door saddles, grout, mortar/cement setting beds, adhesive, caulking, etc. down to existing concrete floor slabs/plaster partitions, clean and prepare existing substrates to receive new tile (in occupied apartments, do not disturb existing ACM flooring material in hallways adjacent to bathroom door saddles).
- B. The Contractor shall ensure that the existing concrete substrate is structurally sound, solid, stable, level and plumb. The exposed slab shall be moisture-free with all traces of dust, dirt, oil, grease, wax and previously applied coatings removed. Major cracks and spalls shall be repaired as required with an approved concrete patching material (specified bonding agent can be used as a primer for such repairs).
- C. Perimeter base of existing plaster partitions/chase walls to receive new cove tile shall be properly cleaned and patched as required where existing tile has been removed. Exposed base of existing bathtubs adjoining existing/new floor/base tile shall be properly cleaned, removing all traces of caulking, etc.
- D. Preparation of existing substrates shall be in strict accordance with manufacturer's recommendations for applying bonding agent on concrete slabs and thin-set mortar on plaster partitions.

- E. Prior to proceeding with installation, thoroughly inspect all surfaces which are to receive new tile and do not proceed with work until such defects or other conditions have been corrected. The starting of installation work in a room shall imply acceptance of the surfaces to receive the tile in that space.

### **3.02 INSTALLATION**

- A. The premises shall be well maintained and all work shall be performed in a neat, clean and workmanlike manner.
- B. After preparation of existing concrete substrate, apply bonding agent (primer) in accordance with manufacturer's recommendations. Preferably, concrete surface shall be dampened with water before application, leaving no puddles. Primer shall be applied to the slab with a push broom using a scrubbing motion to ensure maximum penetration. Bonding agent shall be applied evenly with no puddling permitted. Primer shall be allowed to dry to touch, waiting a min. of 3 hours at normal room temperature before applying leveling underlayment.
- C. After bonding agent has been allowed to dry, apply self-leveling floor underlayment in accordance with manufacturer's recommendations. Underlayment shall be poured or pumped onto the primed substrate, resulting in a self-leveling (no troweling required), smooth hard surface. Thickness shall be ¼" min. ensuring compatibility with the new marble door saddles. Underlayment shall be allowed to set a min. of 14 hrs. at normal room temperature (in occupied apartments, provide temporary floor protection as specified) before installation of floor tile.
- D. After preparation of existing wall surfaces to receive new base tile, apply mortar in a thin, pressure-applied coat to existing plaster/new tile backer board. Then apply additional mortar and comb the surface utilizing the notched side of the trowel to achieve an even setting bed. Utilize a recommended notched trowel with sufficient depth to achieve an 80% min. mortar contact to the back of the tiles. All base tile shall be set before commencing floor tile installation.
- E. After recommended setting of leveling underlayment and installation of base tile, set floor tile in thin-set mortar utilizing installation method similar to base tile. Floor/base tile shall be allowed to set a min. of 2 ½ hrs. at normal room temperature before grouting.
- F. All tile shall be installed in full accordance with the manufacturer's instructions and recommendations in order to maintain the manufacturer's warranty/guarantee.
- G. Base tile shall be installed to true lines and levels. Floor tile shall be properly set aligning height and joints with adjacent base tile. All intersections shall be formed in a neat, clean, workmanlike manner. All joints shall be aligned in both directions to provide straight, uniform grout lines parallel with walls and floors. Joints between floor tile sheets shall be the same width as joints within sheets so extent of each sheet is not apparent in finished work.
- H. Lay out all tile work so as to minimize cuts less than one-half tile in size. Wherever possible, lay out work so that field of tiles are centered on floor area. Cuts shall be located so as to be least conspicuous and shall be made with a diamond blade wet saw.
- I. All tiles shall be properly installed so as not to interfere with the opening of doors or functioning of any equipment.
- J. After floor/base tile has properly set, fill all joints with approved colored grout, wiping surfaces clean of excess material as work proceeds leaving joints full and smooth. Grout shall be forced into joints, filling all gaps and skips. Before grout sets, strike or tool the joints of cushion-edge tile to depth of cushion.
- K. After preparation of existing concrete substrate, install marble saddles in thin-set mortar bed in accordance with manufacturer's recommendations. Wherever possible, the saddle width shall match the width of the existing door jamb frame (the hallway side of the saddles shall directly abut the existing ACM flooring material, which shall not be disturbed).
- L. Caulk at joints between new floor/base tile and saddles, and adjacent existing surfaces as specified in Section 07900 – Joint Sealants in accordance with manufacturer's recommendations.

- M. In occupied apartments, floor tile replacement in bathrooms shall be properly phased to minimize inconvenience and disruption to residents. Temporary plywood flooring protection shall be provided as required throughout all phases of the replacement process to permit full resident access and use of bathrooms during normal non-working hours (temporarily disconnect, remove and reinstall existing water closets as required throughout this process). Plywood shall be of sufficient thickness to protect new installation from floor traffic and shall remain in place until new floor tile has properly set in accordance with manufacturer's recommendations (Contractor will then permanently install water closets).

### **3.03 CLEANING AND PROTECTION**

- A. After setting and grouting have been completed, all traces of mortar and grout shall be removed from tile surfaces in accordance with manufacturer's recommendations. All excess mortar shall be removed with water before the material hardens. Grouted tile shall be sponged and washed thoroughly, diagonally across joints. All grout film/haze shall be removed, observing grout manufacturer's recommendations regarding use of acid and chemical cleaners. If approved chemical cleaners are used, rinse tile work thoroughly with clean water before and after application.
- B. When cleaning tile, care shall be exercised to avoid damage to adjoining materials and surfaces. Saddles, door frames, etc. shall be thoroughly cleaned after grouting.
- C. Tile shall be cleaned, waxed, and buffed with a soft cloth after installation.

### **3.04 TO PROTECT CLEAN, COMPLETED TILE FLOORS FROM CONSTRUCTION DIRT, APPLY A PROTECTIVE COAT OF NEUTRAL CLEANING SOLUTION CONSISTING OF ONE PART CLEANER TO ONE PART WATER. COVER TILE FLOORS WITH HEAVY-DUTY, NON-STAINING CONSTRUCTION PAPER MASKED IN PLACE. JUST BEFORE FINAL ACCEPTANCE OF TILE WORK, REMOVE PAPER AND RINSE PROTECTIVE COATING OF NEUTRAL CLEANER FROM ALL TILE SURFACES.**

- A. Protect completed tile installation from all floor traffic for the time period recommended by the manufacturer. In occupied apartments, provide temporary plywood flooring as previously specified.
- B. After completion of the work and before final acceptance, the premises shall be thoroughly cleaned. All excess materials, rubbish, stains and defacements which have been placed thereon as a result of tile or related work shall be removed from the site. All work areas shall be left in perfectly clean condition satisfactory to the Authority.

### **3.05 REPLACEMENT TILE**

- A. Contractor shall furnish and turn over to Development Management an additional 5% of each type of tile (floor/base) for future replacement purposes. Tile shall be delivered to a designated location at the Development in clearly marked sealed manufacturer's boxes.

**END OF SECTION 09 31 0**