

## 09330 QUARRY TILE

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### *SPECIFIER:*

*CSI MasterFormat 2004 number 09 30 16*

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## PART 1 GENERAL

### 1.1 SUMMARY

#### A. Related Sections:

1. 03300 - Cast-In-Place Concrete.
2. 07900 - Joint Sealers.
3. 09310 - Ceramic Tile.
4. 15421 - Drains and Cleanouts.

### 1.2 REFERENCES

#### A. American National Standards Institute (ANSI), latest edition:

1. A108.1A. Standard Specification for Dry-Set Portland Cement Mortar.
2. A108.3. Standard Specifications for chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive
3. A137.1. Standard Specifications for Ceramic Tile

#### B. Tile Council of North America, Inc. (TCNA): Handbook For Ceramic Tile Installation, latest edition:

### 1.3 SUBMITTALS

#### A. Submit properly identified product data including material specifications, printed installation and mixing instructions and maintenance recommendations for quarry tile and accessories specified.

#### B. Submit samples of the following for review and selection by A/E.

1. Tile manufacturer's full color and pattern range for each type of tile required.
2. Grout manufacturer's full color range samples.
3. Each type of trim shape and special shape required, if requested.
4. Submit sample board showing full range of colors available for review by the A/E.

### 1.4 QUALITY ASSURANCE

#### A. Dynamic Coefficient of Friction Factors:

1. Quarry tile flooring systems shall provide a minimum Dynamic Coefficient of Friction (DCOF) factor as noted below:
  - a. 0.42 for leveled and accessible floors and corridors.
  - b. Provide a minimum slip coefficient factor of 0.8 for inclined floors and ramps.

2. Non-compliance of slip-resistant coefficient factor will be grounds for removal and disposal of installed flooring system, properly preparing the floor substrate, and installation of required slip-resistant flooring system at no expense to the Board.

- B. Both the application and clean-up procedures for a unit of epoxy shall not exceed 45 minutes to 1 hour at room temperature.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver quarry tile in containers to the site with labels intact and seals unbroken.

## 1.6 WARRANTY

- A. Provide written warranty to correct conditions due to faulty installation or replace defective materials after project completion, including any loss of adhesion to the substrate to the satisfaction of the Board for a period of 5 years.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

#### A. Quarry Tile:

1. American Olean.
2. Dal-Tile Corp.: Quarry Textures
3. Summitville Tiles, Inc.

#### B. Setting Materials:

1. Custom Building Products.
2. Laticrete International, Inc
3. Mapei Corporation

#### C. Epoxy Grout:

1. Custom Building Products.
2. Laticrete International, Inc.
3. Mapei Corporation

#### D. Joint Sealers:

1. Cam Kote.
2. Macco Silicone Grout Sealer.
3. Hillyard Onex-Seal.
4. Other as approved by tile manufacturer for intended use.

### 2.2 MATERIALS

- A. Quarry Floor Tile: Non-slip, rustproof abrasive aggregate surface, 6" x 6" x 1/2" size, pre-paraffined to resist grout staining.

- B. Quarry Base Tile: 5" x 5" x 1/2" inch size, pre-paraffined, with coved bottoms, "thin lip" rounded tops, rounded external corners, and matching quarry floor tile.
- C. Mortar for Setting Bed:
  - 1. Conventional cement mortar according to ANSI A118.1A.
- D. Mortar Bond Coat and Grout:
  - 1. High temperature, chemical resistant epoxy mortar bond coat and joint grout according to ANSI A118.3.
  - 2. Complying with Tile Council of America specifications for 3-component, dark gray color mix, consisting of a liquid resin, a hardening agent, and an inert filler, that when completely set and hard shall be free from offensive odors.
  - 3. Certified by manufacturer as suitable for intended use
- E. Color: As selected by A/E.
- F. Marble Thresholds: 2 inch wide standard thickness, color as selected by A/E.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Do not proceed with the work of this section until conditions detrimental to the proper and timely completion of the work have been corrected in an acceptable manner.

### 3.2 INSTALLATION

- A. Surface Preparation:
  - 1. Insure slab is free of curing compounds or when used, mechanical scarifying is necessary.
  - 2. Verify slopes are down to drains as shown on drawings.
    - a. Comply with TCNA F131 at slabs with slopes as shown on drawings.
    - b. Comply with TCNA F132 at slabs requiring a setting bed for slopes or leveling and TCNA:
      - 1) F112: For a mortar bed over slab on grade where no bending stresses occur.
      - 2) F111: For mortar bed over structural floors subject to bending and deflection.
      - 3) F121: For a mortar bed over a waterproof membrane.
    - c. Setting Bed Thickness:
      - 1) 1-1/4" maximum thickness of setting bed on the concrete substrate. Screed and compact to achieve uniform slope.
  - 3. Set marble thresholds where indicated or at dissimilar floor finishes with the same material used for setting quarry floor tile.

4. Movement Joints at Setting Bed:

- a. Provide control, isolation, expansion, and contraction joints according to movement joint designs and install according the TCNA Handbook for Ceramic Tile Installation.
- b. Locate movement joints:
  - 1) At 20 to 25 feet in each direction, for interior locations.
  - 2) At tile abutting perimeter walls, dissimilar floors, pipes, and columns.
  - 3) Over cold joints and saw-cuts in the slab.
- c. Extend joints through the setting bed to the concrete substrate equal in width to the tile grout joints.
- d. Provide approved solid neoprene filler and approved polysulfide caulking.

5. Movement Joints at Epoxy Mortar and Grout:

- a. Provide for expansion and control joints where specified.
- b. Do not cover or bridge any expansion joints with epoxy.
- c. Plan installation so tiles line up on one side of the control or expansion joints.
- d. Protect tilework with metal strips along both edges of structural building expansion joints.
- e. Insert sealant manufacturer's specified compressible bead and sealant for expansion and control joints.

6. Mixing Epoxy Mortar:

- a. Wear rubber gloves and avoid skin contact during mixing, application, and cleaning.
- b. Mix epoxy components in units according to manufacturer's instructions for proper curing.

7. Epoxy Mortar Application:

- a. Follow tile-setter's conventional procedures, laying quarry tile in epoxy mortar bond coat and in pattern indicated with straight lines and uniform joints 3/8" wide.
- b. Use the recommended notched trowel according to manufacturer's instructions with sufficient depth to ensure proper epoxy mortar transfer, covering 100 percent of the tile back.
- c. Using the flat or straight edge of the trowel, apply a thin, pressure-applied coat to the substrate. Follow immediately with additional material, then comb the surface using the notched side of the trowel to achieve an even setting bed.
- d. The entire substrate should be covered, leaving no bare areas between the ridges.
- e. Set tiles dry.
- f. Do not spread more epoxy mortar than can be covered immediately with ceramic tiles.
- g. Place tiles firmly into position with a slight twisting motion to ensure good contact with the epoxy mortar.
- h. Follow immediately with proper and thorough beat-in to flatten the ridges or notches into a continuous bed, allowing at least 25 percent of the thickness of each tile to be embedded into the epoxy mortar to minimize air bubbles from reaching the surface and causing pinholes during grouting.

- i. Make all alignments or adjustments immediately following beat-in.
  - j. Remove smudges from the tile face immediately with a clean sponge and water.
  - k. Do not disturb, grout or walk over tiles for at least 24 hours.
8. Epoxy Grout Application:
- a. Tile surfaces shall be clean, dry, and free of any debris.
  - b. Joints shall be clean and free of excess setting material, standing water, dust, and foreign substances.
  - c. Maintain surface temperature between 60 degrees F and 90 degrees F.
  - d. Prepare and mix epoxy according to manufacturer's instructions.
  - e. Grout and clean in small areas.
  - f. Using a hard rubber float, force the grout into the joints in a continuous manner, leaving it flush with the tile edge.
  - g. Joints shall be well-compacted and free of voids and gaps.
  - h. Fill the joints with the maximum amount of grout possible, except expansion control joints.
  - i. Thoroughly remove excess epoxy from the face of the tile before it loses its plasticity or begins to set.
  - j. Clean tiles immediately after applying each unit of epoxy.
  - k. Do not disturb, grout or walk over tiles for at least 24 hours.
9. Protection:
- a. Before allowing foot traffic over finished tile surfaces cover the work with a layer of heavy polyethylene film, building paper, or other accepted protective covering.
  - b. Lay board walkways on areas to be used as passage ways for workers.
10. Replacement: Remove and replace loose, cracked, broken, or otherwise damaged or defaced tile or marble

END OF SECTION