

# TILE SETTING MATERIALS & ACCESSORIES

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

- A. Setting materials.
- B. Grout materials.

### 1.2 RELATED SECTIONS

- A. Section 09310 – Ceramic Tile.
- B. Section 09315 – Porcelain Tile.
- C. Section 09320 – Floor and Wall Tile.
- D. Section 09330 – Quarry Tile.
- E. Section 09340 – Paver Tile.
- F. Section 09350 – Glass Mosaics.
- G. Section 09380 – Dimension Stone

### 1.3 REFERENCES

- A. ANSI A108.1A - American National Standard Specifications for the Installation of Ceramic Tile.
- B. TCA (HB) - Handbook For Ceramic Tile Installation; Tile Council of America.

### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. [ Product Data ]:
  - 1. Tile Setting and Grouting Materials:
    - a. Manufacturer's [ Product Data ] information sheet.
    - b. Manufacturer's installation instructions.
    - c. Manufacturer's Safety Data Sheets (M.S.D.S.).
- C. Selection Samples:
  - 1. Grout Materials: For each grout type specified, minimum 2 inch long samples indicating manufacturer's full range of available colors.
- D. Verification Samples:
  - 1. If more than one grout color specified for individual tile type and color, or tile color pattern, submit two (2) additional tile sample panels for each grout color specified.

### 1.5 QUALITY ASSURANCE

- A. Qualifications:
  - 1. Tile and Dimension Stone Manufacturers: Minimum five (5) years documented experience producing respective products specified in this section.
  - 2. Setting Materials and Grout Materials Manufacturer: Tile Council of America, Inc. Licensee for Dry-Set Mortar and Grouts, with minimum five (5) years documented experience producing respective products specified in this section.
  - 3. Installer: Minimum five (5) years documented experience installing respective products specified in this section.
- B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  - 3. Refinish mock-up area as required to produce acceptable work.

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## 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials on site a minimum of 24 hours before use.
- B. Acceptance at site: Accept only materials in original containers, with seals unbroken and labels intact.
- C. Store materials in dry, heated area on site in original containers, with seals unbroken and labels intact, until time of use; prevent damage to materials such as chipping, breakage, freezing, or excessive heat; prevent contamination by water, moisture, foreign matter, or other causes.

## 1.7 PROJECT CONDITIONS

- A. Maintain ambient and surface temperatures at minimum 60 degrees F (16 degrees C) during installation of cementitious materials and for 72 hours after installation.
- B. Maintain ambient and surface temperatures between 65 degrees F (18 degrees C) and 95 degrees F (35 degrees C) during installation of epoxy setting and grouting materials and for 72 hours after installation.
- C. Vent temporary heaters to outside to avoid carbon dioxide damage to new tilework.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers  
Setting Materials and Grout: SGM, Inc.; 1502 S.W. 2nd Place, Pompano Beach FL 33069; ASD.  
Toll Free Tel: (800) 641-9247. Te1: (954) 943-2288, Fax: (954) 943-2402. E-mail: sales@sgm.cc.  
Website:www.sgm.cc/html/Product.html
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.
- D. Supply each specified product from a single manufacturer; supply all setting materials and grout materials from a single manufacturer.

### 2.2 MEMBRANES AND UNDERLAYMENTS

- A. Two Part Membrane Underlayment:
  - 1. Acceptable Product: SGM, Inc.; Southcrete No.1100 Crack Suppression and Waterproofing Kit.
  - 2. Characteristics: Anti-fracture, load-bearing, bondable membrane material for bridging minor shrinkage cracks in substrate; conforming to ANSI A118.10.
- B. One-Part Liquid Anti-fracture Underlayment:
  - 1. Acceptable Product: SGM, Inc.; Southcrete 1132 Liquid Applied Membrane.
  - 2. Characteristics: Anti-fracture, load-bearing, bondable sheet material for bridging minor shrinkage cracks in substrate.
- C. Self-Leveling Cementitious Underlayment:
  - 1. Acceptable Product: SGM, Inc.; Self-leveling Underlayment #815 (Cementitious).
  - 2. Characteristics: Portland cement, modified with acrylic admixtures for improved self-leveling and curing performance.
- D. Waterproof Membrane:
  - 1. Acceptable Product: SGM, Inc.; Southcrete 1132 Liquid Applied Membrane.
  - 2. Characteristics: Anti-fracture, load-bearing, bondable membrane material; conforming to ANSI A118.10.
- E. Sound Control Underlayment:
  - 1. Acceptable Product: SGM, Inc.; Southcrete 60 Sound Control.
  - 2. Characteristics: Lightweight cementitious underlayment designed to reduce sound transmission.

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## 2.3 MORTARS AND ADHESIVES

- A. Dry-Set Mortar for setting Ceramic, Mosaic and Quarry Tiles:
1. Acceptable Product: SGM, Inc.; TCA-759 (Premium) Thinset Mortar.
  2. Characteristics: Portland cement and sand, with water-retentive admixtures, factory-mixed; conforming to ANSI A118.1.
- B. Dry-Set Mortar for setting absorptive, semi-vitreous and vitreous Floor & Wall Tiles:
1. Acceptable Product: SGM, Inc.; Floor and Wall Thinset Mortar #727.
  2. Characteristics: Portland cement and sand, with water-retentive admixtures, factory-mixed; conforming to ANSI A118.1.
- C. Latex-Portland Cement Mortar for setting absorptive, semi-vitreous and vitreous Floor & Wall Tiles:
1. Acceptable Product: SGM, Inc.; TCA-759 (Premium) Thinset Mortar, gauged with Southcrete 25 Acrylic Mortar Admixture.
  2. Characteristics: Dry-set mortar with latex to be used as replacement for all or part of gauging water; conforming to ANSI A118.4.
- D. Fast Setting, Latex-Portland Cement Mortar for use interior and exterior for Floor and Wall Tiles :
1. Acceptable Product: SGM, Inc.; Floor and Wall Thinset Mortar, gauged with Kwik Set Acrylic Mortar Admixture.
  2. Characteristics: Dry-set mortar with latex to be used as replacement for all or part of gauging water; conforming to ANSI A118.4.
- E. Latex-Portland Cement Mortar for setting absorptive, semi-vitreous and vitreous Floor & Wall Tiles:
1. Acceptable Product: SGM, Inc.; Floor and Wall Thinset Mortar #727, gauged with Southcrete 25 Acrylic Mortar Admixture.
  2. Characteristics: Dry-set mortar with latex to be used as replacement for all or part of gauging water; conforming to ANSI A118.4.
- F. Latex-Portland Cement Mortar for use in Job-Site Mixes:
1. Acceptable Product: SGM, Inc.; Southcrete 40, with Crete-Mix Filler Powder.
  2. Characteristics: Portland cement mortar with latex to be used as replacement for all or part of the gauging water; conforming to ANSI A118.4.
- G. Medium-Bed Latex-Portland Cement Mortar for setting Large Ceramic Tiles, Translucent, White Marble or other Dimension Stone:
1. Acceptable Product: SGM, Inc.; Marble Set.
  2. Characteristics: Portland cement mortar with dry polymers added in re-emulsifiable powder form, factory-mixed; conforming to ANSI A118.4.
- H. Epoxy Mortar for use in Setting Green, Black or Moisture Sensitive Marble:
1. Acceptable Product: SGM, Inc.; EGS 100% Epoxy Mortar & Grout.
  2. Characteristics: Chemical-resistant, water cleanable, 100 percent solids epoxy mortar; conforming to ANSI A118.3.
- I. Organic Adhesive for Setting Interior Wall & Floor Tile :
1. Acceptable Product: SGM, Inc.; Southcrete 555 Floor & Wall Type 1 Adhesive.
  2. Characteristics: Conforming to ANSI A136.1, Type I.

## 2.4 GROUTS

- A. Sanded Grout (un-modified) for use in grout joint widths 1/4" to 5/8":
1. Acceptable Product: SGM, Inc.; Quarry Grade (AR) Grout.
  2. Characteristics: Portland cement, with sand and mineral filler coloring agents, factory-mixed; conforming to ANSI A118.6 H-2.1.
  3. Color: \_\_\_\_\_.

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- B. Unsanded Grout (polymer modified) for use in joint widths 1/8" or less:
  1. Acceptable Product: SGM, Inc.; Dry-Set (unsanded) Joint Filler.
  2. Characteristics: Portland cement, with mineral filler coloring agents and water-retentive admixtures, factory-mixed; conforming to ANSI A118.6 H-2.3.
  3. Color: \_\_\_\_\_.
- C. Latex-Portland Cement Grout (polymer modified) for use in joint widths 1/8" to 5/8":
  1. Acceptable Product: SGM, Inc.; Security Polymer Grout.
  2. Characteristics: Dry-set grout with dry polymers added in re-emulsifiable powder form, factory-mixed; conforming to ANSI A118.6 H-2.4.
  3. Color: \_\_\_\_\_.
- D. Epoxy Grout for use in joint widths up to 1/4":
  1. Acceptable Product: SGM, Inc.; EGS 100% Epoxy Mortar & Grout.
  2. Characteristics: Chemical-resistant, water cleanable, 100 percent solids epoxy grout; conforming to ANSI A118.3 E-2.1.
  3. Color: \_\_\_\_\_.

## 2.5 ACCESSORIES

- A. Spacers for Porcelain Paver Tile: Plastic; size specified in manufacturer's printed installation instructions for tile thicknesses and joint widths indicated.
- B. Tile Edge: Stainless steel angle, leg length equal to depth of tile or panel and setting bed.
- C. Threshold: Marble, white; full door frame width, full depth of frame, thickness equal to depth of tile and setting bed, one long edge beveled 45 degrees.
- D. Miscellaneous Accessories: Supply additional components specified in ANSI and TCA specifications for indicated installations.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions:
  1. Verify that moisture content of substrates are within tolerances recommended by setting materials manufacturer.
  2. Verify that horizontal substrates are formed to required slopes.
  3. Verify that substrates meet requirements specified in referenced TCA details.
  4. Verify that locations and widths of required expansion joints are indicated on drawings.
- B. Installer's Examination:
  1. Have installer examine conditions under which construction activities of this section are to be performed, including but not limited to conditions specified in paragraph above, and submit written notification if substrates or conditions are unacceptable.
  2. Transmit two copies of installer's report to Architect within 24 hours of receipt of report.
  3. Proceeding with construction activities of this section before unacceptable substrates and conditions have been corrected is prohibited.
  4. Beginning construction activities of this section indicates installer's acceptance of substrates and conditions under which construction activities of this section are to be performed.

### 3.2 PREPARATION

- A. Horizontal Cementitious Substrates:
  1. Grind high spots of concrete slabs to achieve specified tolerances.
  2. Install specified underlayment to bring horizontal substrates to specified tolerances.
  3. Clean surfaces free of dust and debris; acid-etch concrete slabs.

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- B. Vertical Cementitious Substrates:
  1. Grind high spots of concrete surfaces to achieve specified tolerances.
  2. Apply skim coat of specified latex-Portland cement mortar to bring vertical cementitious substrates; including concrete, concrete unit masonry, plaster, and cementitious backer units; to specified tolerances.
  3. Clean surfaces free of dust and debris; acid-etch concrete surfaces.
- C. Cementitious Backer Units:
  1. Fill gaps between panels with specified latex-Portland cement mortar; embed 2 inch wide fiberglass mesh tape in skim coat of the same mortar over joints and in corners.
  2. Apply skim coat of same mortar to bring wall to acceptable tolerances; do not exceed manufacturer's recommended thickness of materials.
  3. Allow material to cure in accordance with mortar manufacturer's instructions before application of additional materials.
- D. Protect surface of adjacent products and materials before beginning construction activities of this section.

## 3.3 INSTALLATION - GENERAL

- A. Install in accordance with the TCA Method indicated, and as follows.
- B. Install waterproof membrane, where required in referenced TCA Methods, in accordance with manufacturer's instructions.
- C. Mix and install proprietary materials in accordance with manufacturer's instructions.
- D. Expansion control:
  1. Form expansion control joints in accordance with TCA EJ171.
  2. Except where saw-cut cold expansion joints are indicated on drawings or otherwise indicated, provide expansion control joints where tile abuts vertical surfaces, where tile abuts dissimilar surfaces, where structural joints or changes of materials occur in tile substrate, as indicated on drawings, and as follows:
    - a. Tile expansion joints over structural joints: Provide joint in tile same width as structural joint.
    - b. For thickset tile installation, provide tile edge each side of tile expansion joint.
    - c. Provide removable joint filler strips in expansion joints; allowing mortar or grout to migrate into joint cavities is prohibited.
    - d. After grout has cured, and after cleaning of tile surfaces, remove filler strips and install joint backing materials and sealers in accordance with Section 07900.
- E. Install tile in accordance with referenced TCA details, including specifications and references contained therein.
  1. Extend into recesses, and under or behind equipment and fixtures, to form complete covering without interruptions, except as otherwise indicated.
  2. Cut tiles only with powered cut-off blade and drill holes in tiles, where required, using powered carbide-tip drill bit; cut or drilled tiles having chipped or broken edges are prohibited.
  3. Cut tiles less than 1/2 full tile dimension each way are prohibited.
  4. Maintain joint widths between tiles as specified in tile manufacturer's installation instructions; use spacers at corners of tile units or factory-assembled sheets of tile units.

## 3.4 INSTALLATION - FLOORS

- A. General:
  1. Provide tile edge where floor tile abuts dissimilar floor covering materials.

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2. Provide thresholds at doors and openings, except where tile is continuous between spaces; field-cut notches for door stops.
  3. Unless otherwise indicated, install tile in grid pattern perpendicular and parallel to adjacent vertical surfaces, centered in space.
- B. Exterior Concrete Floors and Slabs:
1. On-grade, thickset: TCA F101; \_\_\_\_\_ bond coat.
  2. On-grade, thinset: TCA F102.
  3. Elevated, thickset, over drainage layer: TCA F103; with waterproof membrane, wire mesh reinforcement, and filter fabric.
- C. Interior Concrete Floors:
1. On-grade:
    - a. Toilet Rooms: TCA \_\_\_\_.
    - b. All Other Areas: TCA \_\_\_\_.
  2. Elevated:
    - a. Toilet Rooms: TCA \_\_\_\_.
    - b. All Other Areas: TCA \_\_\_\_.
- D. Interior Wood Floors:
1. Toilet Rooms: TCA \_\_\_\_.
  2. All Other Areas: TCA \_\_\_\_.
- E. Stairs: TCA S151, thickset on concrete.
- F. Stairs: TCA S151, thickset on metal pan.
- G. Stairs: TCA S151, thickset on wood.
- H. Marble Thresholds: TCA TR611.

## 3.5 INSTALLATION - WALLS

- A. General:
1. Set full tile units, or full factory-assembled sheets of tile units, adjacent to outside corner units; cut tile only at inside corners.
  2. Unless otherwise indicated, install tile in grid pattern plumb and level.
  3. Provide trim shapes as follows:
    - a. Coved base with bullnose cap for walls not receiving wall tile.
    - b. Coved base with square cap for walls receiving wall tile.
    - c. External corners for walls and base.
    - d. Other trim shapes specified in manufacturer's installation instructions for project conditions.
  4. Where wall tile and floor tile have same modular dimensions, align wall tile joints with floor tile joints.
- B. Exterior Masonry and Concrete Walls, Thickset: TCA 201, with waterproof membrane and wire mesh reinforcement.
- C. Exterior Masonry and Concrete Walls, Thinset: TCA W202.
- D. Interior Walls:
1. Masonry and Concrete, Thickset: W211.
  2. Masonry and Concrete, Thickset: TCA W201, with metal lath, scratch coat, and waterproof membrane at wet areas.
  3. Masonry and Concrete, Thinset: W202.
  4. On Gypsum Board: TCA W242, organic adhesive.
  5. On Gypsum Board: TCA W243, dry-set or latex-portland cement mortar.
  6. On Cementitious Backer Units: TCA W244, with waterproof membrane at wet areas.
  7. On Other Solid Backing: TCA \_\_\_\_.

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8. Directly On Wood Studs or Furring: TCA W231, with metal lath, scratch coat, and waterproof membrane.
9. Directly On Metal Studs or Furring, Thickset: TCA W241, with metal lath, scratch coat, and waterproof membrane.

## 3.6 INSTALLATION - TUBS AND SHOWERS

- A. Bathtub Walls:
  1. On Cementitious Backer Units: TCA B412.
  2. Directly on Wood or Metal Studs: TCA B411.
  3. On Water-Resistant Gypsum Board: TCA B413.
- B. Showers:
  1. On Cementitious Backer Units: TCA B415
  2. Directly on Wood or Metal Studs: TCA B411.
  3. On Water-Resistant Gypsum Board: TCA B416.
  4. Receptors: TCA B414, thickset.

## 3.7 INSTALLATION - OTHER APPLICATIONS

- A. Interior Ceilings and Soffits, Thickset: TCA C311, on metal lath and scratch coat.
- B. Interior Ceilings and Soffits, Thickset: TCA C311, on cementitious backer unit.
- C. Interior Ceilings and Soffits, Thinset, on Gypsum Board: TCA C312, \_\_\_\_\_ bond coat.
- D. Countertops: TCA C511, thickset, with metal lath and scratch coat.
- E. Countertops: TCA C512, thinset, with organic adhesive.
- F. Countertops: TCA C512, thinset, with epoxy mortar,
- G. Countertops: TCA C513, thinset, with cementitious backer unit substrate.
- H. Miscellaneous Applications:
  1. Tile Tubs and Fountains: TCA B417.
  2. Swimming Pool: TCA P601.
  3. Window Stools: TCA WS610.
  4. Refrigerator Rooms, Thickset: TCA R612.
  5. Steam Rooms, Thickset: TCA SR613.
  6. Steam Rooms, Thinset: TCA SR614.

## 3.8 GROUTING

- A. Cure set tile in accordance with the following:
  1. Cure tile 72 hours before grouting when temperature is low or humidity is high.
  2. Cure tile 48 hours before grouting when hot, dry conditions exist.
  3. Check bond strength of tile before grouting.
- B. Grout tile in accordance with the following, using grout materials specified:
  1. Latex Portland Cement Grout: ANSI A108.10.
  2. Epoxy Grout: ANSI A108.6.
  3. Remove grout from tile surfaces while still plastic, as grouting progresses.

## 3.9 CLEANING

- A. After completion of setting and grouting, clean tile surfaces using cleaning methods and materials recommended by tile manufacturer and grout materials manufacturer.
- B. Except as specifically recommended by both tile manufacturer and grout materials manufacturer, acid cleaning of tile and grout surfaces is prohibited; in such instance, clean tile and grout surfaces in strict accordance with manufacturers' instructions for acid cleaning, including protection of adjacent products and materials.

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## 3.10 PROTECTION

- A. Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective work.
- B. When recommended by tile manufacturer, apply protective coat of neutral protective cleaner to completed tile walls and floors.
- C. Protect installed tile in accordance with ANSI specifications and manufacturer's instructions; use Kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
- D. Remove protective coverings and rinse neutral cleaner from tile surfaces not more than 24 hours before final inspection.

## 3.11 SCHEDULE

END OF SECTION