1.1 SECTION INCLUDES
A. Tile for floor applications.
B. Tile for wall applications.
C. Ceramic accessories.
D. Ceramic trim.
E. Metal edge strips.

1.2 REFERENCE STANDARDS
E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
1.3 ADMINISTRATIVE REQUIREMENTS
A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.4 SUBMITTALS
A. Product Data: Provide manufacturers’ data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
B. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
C. Samples: Mount tile and apply grout on a plywood panel, minimum 18 by 18 inches (457 by 457 mm) in size illustrating pattern, color variations, and grout joint size variations.
D. Manufacturer’s Certificate: Certify that products meet or exceed specified requirements.
E. Master Grade Certificate: Submit for each type of tile, signed by the tile manufacturer and tile installer.
F. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

1.5 QUALITY ASSURANCE
A. Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.
B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
C. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

1.6 MOCK-UP
A. Construct tile mock-up where indicated on drawings, incorporating all components specified for the location.
1. Approved mock-up may remain as part of the Work.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.8 FIELD CONDITIONS
   A. Do not install solvent-based products in an unventilated environment.
   B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.1 TILE
   A. Manufacturers:
         a. Color in Main Lobby: Relevance Exact Black RL05 Textured
         b. Color in Restrooms: Relevance Essential Charcoal RL04 Textured
   B. Basis of Design: Subject to compliance with requirements, provide products indicated on Drawings.
   C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:
      1. Provide as indicated in Interior Finish Legend, unless otherwise indicated.
   D. Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with the following requirements:
      1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.

2.2 TRIM AND ACCESSORIES
   A. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile; same manufacturer as tile.
   B. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
      1. Applications:
         a. Floor to Wall Joints: Cove base.
         2. Manufacturers: Same as for tile.
   C. Non-Ceramic Trim: Satin brass anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.
      1. Applications:
         a. Open edges of wall tile.
         b. Open edges of floor tile.
         c. Wall corners, outside and inside.
         d. Transition between floor finishes of different heights.
         e. Thresholds at door openings.
f. Expansion and control joints, floor and wall.
g. Floor to wall joints.
h. Borders and other trim as indicated on drawings.
i. Balcony and terrace edge trim and fascia.

2. Manufacturers:
   a. Schluter-Systems.
   b. Genesis APS International.

D. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
   1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch (1.5 mm) above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch (12.7 mm) or less above adjacent floor surface.

2.3 SETTING MATERIALS
A. Manufacturers:
   1. ARDEX Engineered Cements
   2. Bostik Inc
   3. Custom Building Products
   4. LATICRETE International, Inc
   5. TEC, an H.B. Fuller Construction Products Brand

   1. Applications: Use this type of bond coat where indicated and where no other type of bond coat is indicated.
   2. Products:
      a. ARDEX Engineered Cements; ARDEX N 23 MICROTEC
      b. Custom Building Products; ProLite Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer
      c. TEC, an H.B. Fuller Construction Products Brand; TEC Ultimate Large Tile Mortar

2.4 GROUTS
A. Manufacturers:
   1. ARDEX Engineered Cements.
   2. Bostik Inc.
   3. Custom Building Products.
   4. LATICRETE International, Inc
   5. TEC, an H.B. Fuller Construction Products Brand

B. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
   1. Applications: Where indicated.
   2. Color(s): As selected by Architect from manufacturer’s full line.
   3. Products:
      a. ARDEX Engineered Cements; ARDEX WA
      b. Custom Building Products; CEG-IG 100% Solids Industrial Grade Epoxy Grout
      c. LATICRETE International, Inc; LATICRETE SPECTRALOCK PRO Premium Grout
      d. Merkrete, by Parex USA, Inc; Merkrete Pro Epoxy
      e. TEC, an H.B. Fuller Construction Products Brand; TEC AccuColor EFX Epoxy Special Effects Grout
2.5 ACCESSORY MATERIALS

A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
   1. Type: Fluid-applied.
   2. Thickness: 20 mils (0.5 mm), maximum.
   3. Crack Resistance: No failure at 1/16 inch (1.6 mm) gap, minimum.

B. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
   1. Crack Resistance: No failure at 1/16 inch (1.6 mm) gap, minimum; comply with ANSI A118.12.
   2. Fluid or Trowel Applied Type:
      a. Material: Synthetic rubber or Acrylic.
      b. Thickness: 25 mils (0.6 mm), minimum, dry film thickness.
      c. Products:
         1) ARDEX Engineered Cements; ARDEX 8+9
         2) Custom Building Products; RedGard Crack Prevention and Waterproofing Membrane
         3) TEC, an H.B. Fuller Construction Products Brand; TEC HydraFlex Waterproofing Crack Isolation Membrane
         4) LATICRETE International, Inc; LATICRETE HYDRO BAN

C. Waterproofing Membrane at Showers and Tiled Tubs: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
   1. Fluid or Trowel Applied Type:
      c. Thickness: 25 mils (0.6 mm), minimum, dry film thickness.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
D. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.
E. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

A. Protect surrounding work from damage.
B. Vacuum clean surfaces and damp clean.
C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.3 INSTALLATION - GENERAL
A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.13, manufacturer's instructions, and TCNA (HB) recommendations.
B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
E. Form internal angles square and external angles bullnosed.
F. Install ceramic accessories rigidly in prepared openings.
G. Install non-ceramic trim in accordance with manufacturer's instructions.
H. Sound tile after setting. Replace hollow sounding units.
I. Keep control and expansion joints free of mortar, grout, and adhesive.
J. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
K. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
L. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS
A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.

3.5 INSTALLATION - FLOORS - MORTAR BED METHODS
A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F111, with cleavage membrane, unless otherwise indicated.
B. Mortar Bed Thickness: 5/8 inch (15.9 mm), unless otherwise indicated.

3.6 INSTALLATION - SHOWERS AND BATHTUB WALLS
A. At tiled shower receptors install in accordance with TCNA (HB) Method B415, mortar bed floor, and W244, thin-set over cementitious backer unit walls.
B. Grout with standard grout as specified above.

3.7 INSTALLATION - WALL TILE
A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.
B. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.
3.8 CLEANING
   A. Clean tile and grout surfaces.

3.9 PROTECTION
   A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION