



SECTION 09 30 33
STONE TILE

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Paver stones for decks.
- B. Paver stones for walkways.
- C. Paver stones for driveways.
- D. Cobble stones.
- E. Decorative pebbles.
- F. Stone mosaic wall tile.
- G. Stone mosaic floor tile.
- H. Cementitious backer board.
- I. Crack isolation.
- J. Metal trim.
- K. Stone thresholds.

1.2 RELATED SECTIONS

- A. Section 32 10 00 - Bases, Ballasts, and Paving.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 03 51 00 - Cast Roof Decks.
- D. Section 07 91 23 - Backer Rods.
- E. Section _____ - _____: Waterproofing membrane.

1.3 REFERENCES

- A. ANSI A108/A118/A136.1 - Specifications for the Installation of Ceramic Tile.
- B. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
- C. ASTM C 150 - Standard Specification for Portland Cement.

- D. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- E. ASTM C 503 - Specification for Marble Building Stone (Exterior).
- F. ASTM C 615 - Specification for Granite Dimension Stone.
- G. ASTM C 629 - Specification for Slate Dimension Stone.
- H. ASTM C 847 - Standard Specification for Metal Lath.
- I. ASTM C 1028 - Standard Test Method for Determining the Static Coefficient of Friction or Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
- J. ASTM D 4397 - Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications.
- K. Tile Council of North America (TCNA): TCA Handbook for Ceramic Tile Installation, 2007.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: Tile on walkway surfaces shall be provided with the following values as determined by testing in conformance with ASTM C 1028.
 - 1. Level Surfaces: Minimum of 0.6 (Wet).
 - 2. Step Treads: Minimum of 0.6 (Wet).
 - 3. Ramp Surfaces: Minimum of 0.8 (Wet).

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Indicate tile layout, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, accessories, and setting details.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- F. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic cleaning and maintenance of all components.

1.6 QUALITY ASSURANCE

- A. Maintain one copy each of all Referenced standards and specifications on site. Include the TCA Handbook, ANSI A108 Series, ANSI A118 Series ANSI A136.1 and ANSI A137.1.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five years demonstrated experience in installing products of the same type and scope as specified.
- C. Single Source Responsibility:
 - 1. Obtain each type and color of paver from a single source.
 - 2. Obtain each type and color of mortar, adhesive and grout from the same source.

- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Locate mock-up in location as directed by the Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Mock-up area may become part of finished work.
 - 4. Mock-up area may not become part of finished work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging until ready for installation.
- B. Protect adhesives and liquid additives from freezing or overheating in accordance with manufacturer's instructions.
- C. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

1.8 ENVIRONMENTAL REQUIREMENTS

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

1.9 EXTRA MATERIALS

- A. Provide ____ sq ft (____ sq m) of each size, color, and surface finish of tile specified.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Coverall Stone Inc., which is located at: 19050 13th Pl. S. Unit 102; SeaTac, WA 98148; Toll Free Tel: 800-779-3234; Fax: 206-935-5310; Email:[request info \(sales@coverallstone.com\)](mailto:requestinfo@coverallstone.com); Web:<http://www.coverallstone.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 BASALT STONE PAVER TILE

- A. Basalt Stone General: Basalt is a naturally forming lava stone that has good strength and high density. Basalt is black in color when polished, gray when flamed.
- B. Honed Finish Basalt Tile: Thickness: 1/2 inch.
 - 1. Size: 12 by 24 inches.
 - 2. Size: 24 by 24 inches.
 - 3. Size: 24 by 36 inches.
- C. Flamed Finish Basalt Tile: Thickness: 3/4 inch.
 - 1. Size: 12 by 12 inches.
 - 2. Size: 12 by 24 inches.
 - 3. Size: 24 by 24 inches.
 - 4. Size: 24 by 36 inches.
 - 5. Size: 24 by 48 inches.

- D. Basalt Hex Paver: Thickness: 1-1/2 inch.
 - 1. Size: 10 to 18 inch diameter.
 - 2. Size: 18 to 24 inch diameter.
 - 3. Finish: Flamed finish.
- E. Flamed Finish Basalt Tile: Thickness: 2 inches.
 - 1. Size: 8 by 8 inches.
 - 2. Size: 8 by 16 inches.
 - 3. Size: 16 by 16 inches.
 - 4. Size: 16 by 24 inches.
- F. Flamed Finish Basalt Stair:
 - 1. Size: 15 by 48 by 6 inches.
 - 2. Size: 15 by 72 by 6 inches.
 - 3. Finish: Flamed all sides.
- G. Flamed Finish Basalt Step: Thickness: 6 inches.
 - 1. Size: 24 inch diameter.
 - 2. Finish: Flamed top only with natural crust sides.

2.3 BALSALT STONE PAVER TILE

- A. Basalt Stone General: Basalt is a naturally forming lava stone that has good strength and high density. Generally, basalt is brown on the outer skin and polishes to a dark black.
- B. Basalt-Slabs and Planks:
 - 1. Thickness: 1.81 Inches.
 - 2. Thickness: 2 inches.
 - 3. Thickness: 3 inches.
 - 4. Thickness: 4 inches.
 - 5. Width/Length: 28 by 96 inches.
 - 6. Width/Length: __ by __ inches.
 - 7. As indicated on the Drawings.
 - 8. Finish: Polished slab.
 - 9. Finish: Flamed slab.
- C. Flamed Finish Basalt Plank: Thickness: 2 inches.
 - 1. Size: 26 by 72 inches.
 - 2. Size: 26 by 84 inches.
 - 3. Size: 26 by 96 inches.
 - 4. Size: 30 by 72 inches.
 - 5. Size: 30 by 84 inches.
 - 6. Size: 30 by 96 inches.
 - 7. Size: 36 by 72 inches.
 - 8. Size: 36 by 84 inches.
 - 9. Size: 36 by 96 inches.
 - 10. Finish: Flamed finish on top and sides.

2.4 SALT AND PEPPER GRANITE PAVING AND TILE

- A. Granite Stone General: Salt and Pepper granite paving has large black flecks and flakes of shiny quartz throughout.
- B. Honed Finish Granite Paver: Thickness: 1/2 inch.
 - 1. Size: 12 inches by 24 inches.
 - 2. Size: 24 inches by 24 inches.
 - 3. Size: 24 inches by 36 inches.

- C. Flamed Finish Granite Paver: Thickness: 3/4 inch.
 - 1. Size: 12 inches by 12 inches.
 - 2. Size: 12 inches by 24 inches.
 - 3. Size: 24 inches by 24 inches.
 - 4. Size: 24 inches by 36 inches.

- D. Flamed Finish Granite Paver: Thickness: 2 inches.
 - 1. Size: 8 by 8 inches.
 - 2. Size: 8 by 16 inches.
 - 3. Size: 16 by 16 inches.
 - 4. Size: 16 by 24 inches.

- E. Flamed Finish Granite Plank: Thickness: 2 inches.
 - 1. Size: 26 by 72 inches.
 - 2. Size: 26 inches by 84 inches.

2.5 CUSTOM GRANITE PAVING

- A. Granite Paver:
 - 1. Thickness: __ to __ inches.
 - 2. Width: __ by __ inches.
 - 3. Length: __ by __ inches.
 - 4. Color: Golden Ore.
 - 5. Color: Midnight Black.
 - 6. Color: Salmon.
 - 7. Color: Dark Grey.
 - 8. Color: Salt & Pepper.

2.6 GRANITE COBBLE STONES

- A. Granite Cobble Stones:
 - 1. Size: 4 by 4 by 4 inches.
 - 2. Finish: Chisel.
 - 3. Color: Salmon-Cobble.
 - 4. Color: Salt-and-Pepper-Cobble.
 - 5. Color: Dark-Grey-Cobble.
 - 6. Color: Basalt-Cobble.
 - 7. Color: Golden Ore.
 - 8. Color: Midnight Black Granite.

2.7 DECORATIVE PEBBLES

- A. Aggregates:
 - 1. Packing: Super Sacks: 3,000 lb. Bags: 100 lb.
 - 2. Color Aggregates: Basalt; crushed.
 - 3. Color Aggregates: Basalt; rounded.
 - 4. Color Aggregates: Basin Brown.
 - 5. Color Aggregates: Chinook Brown.
 - 6. Color Aggregates: Coral Mix Aggregates.
 - 7. Color Aggregates: Eagle Grey.
 - 8. Color Aggregates: Glacier River.
 - 9. Color Aggregates: Grey Granite.
 - 10. Color Aggregates: Marble; Chip.
 - 11. Color Aggregates: Oxbow Brown.
 - 12. Color Aggregates: Pearl.
 - 13. Color Aggregates: Plum.
 - 14. Color Aggregates: Salt and Pepper.

15. Color Aggregates: Tan Blend.
16. Color Aggregates: Tannin.
17. Color Aggregates: Twilight.
18. Color Aggregates: White River.

B. Beach-Glass:

1. Packing: Bags: 25 lb. Pallet: 80 bags.
2. Size: 1/2 to 1 inch.
3. Color: Black Size.
4. Color: Brown Size.
5. Color: Rose Size.
6. Color: Cobalt Size.
7. Color: Sky-Blue Size.
8. Color: Sea-Mix Size.
9. Color: Emerald Size.
10. Color: Tinted-Green Size.
11. Color: Clear.

C. Mexican-Beach- Pebble:

1. Packing: Bags: 75 lb. Bags per Pallet: 40 bags. Super Sacks: 3,000 lb.
2. Color: Black. Size: 1/2 to 1 inch.
3. Color: Black. Size: 1 to 2 inch.
4. Color: Black. Size: 2 to 3 inch.
5. Color: Black. Size: 3 to 5 inch.
6. Color: Bone. Size: 1/2 to 1 inch.
7. Color: Bone. Size: 1 to 2 inch.
8. Color: Bone. Size: 2 to 3 inch.
9. Color: Bone. Size: 3 to 5 inch.
10. Color: Mixed. Size: 1/2 to 1 inch.
11. Color: Mixed. Size: 1 to 2 inch.
12. Color: Mixed. Size: 2 to 3 inch.
13. Color: Mixed. Size: 3 to 5 inch.

D. Polished Pebble:

1. Packing: Bags: 50 lb. Bags per Pallet: 49 bags.
2. Color: Black. Size: 3 inch to 5 inch.
3. Color: Black. Size: 1/2 inch to 3/4 inch.
4. Color: Black. Size: 1-1/2 inch to 2-1/2 inch.
5. Color: Black. Size: 3/4 inch 1-1/2 inch.
6. Color: Red. Size: 1-1/2 inch to 2-1/2 inch.
7. Color: Red. Size: 3/4 inch to 1-1/2 inch.
8. Color: Red. Size: 1/2 inch to 3/4 inch.
9. Color: Mixed. Size: 1-1/2 inch to 2-1/2 inch.
10. Color: Mixed. Size: 3/4 inch to 1-1/2 inch.
11. Color: Mixed. Size: 1/2 inch to 3/4 inch.
12. Color: White. Size: 1-1/2 inch to 2-1/2 inch.
13. Color: White. Size: 3/4 inch to 1-1/2 inch.
14. Color: White. Size: 1/2 inch to 3/4 inch.
15. Color: Yellow. Size: 1-1/2 inch to 2-1/2 inch.
16. Color: Yellow. Size: 3/4 inch 1-1/2 inch.
17. Color: Yellow. Size: 1/2 inch to 3/4 inch.
18. Color: Rolled Marble. Size: 1-1/2 inch to 2-1/2 inch.
19. Color: Rolled Marble. Size: 3/4 - 1-1/2"
20. Color: Rolled Marble. Size: 1/2 inch to 3/4 inch.

E. Seaside Pebble:

1. Packing: Bags: 50 lb. Bags per Pallet: 49 bags.
2. Color: Ivory. Size: 1/2 to 1 inch.
3. Color: Ivory. Size: 1 to 2 inch.
4. Color: Ivory. Size: 2 - 3 inch.
5. Color: Ivory. Size: 3 to 5 inch.
6. Color: Green. Size: 1/2 to 1 inch.
7. Color: Green. Size: 1 to 2 inch.
8. Color: Green. Size: 2 - 3 inch.
9. Color: Green. Size: 3 to 5 inch.

F. Exotic Pebble:

1. Packing: Bags: 10 lb for Onyx. 25 lb for black and pearl. Bags per Pallet: 80.
2. Color: Absolute Black. Size: 3/4 to 1-1/2 inch.
3. Color: Absolute Black. Size: 1-1/2 to 3 inch.
4. Color: Pearl White. Size: 5/8 to 7/8 inch.
5. Color: Pearl White. Size: 3/4 to 1-1/2 inch.
6. Color: Pearl White. Size: 1-1/2 to 3 inch.
7. Color: Black Onyx. Size: 3/4 to 1-1/2 inch.
8. Color: Black Onyx. Size: 1-1/2 to 2 inch.
9. Color: Black Onyx. Size: 2 to 3 inch.
10. Color: White Onyx. Size: 1/2 to 1 inch.
11. Color: Ruby Red Onyx. Size: 1/2 to 1 inch.
12. Color: Blue Onyx. Size: 1/2 to 1 inch.
13. Color: Red Jasper. Size: 1/2 to 1 inch.
14. Color: Green Aventurine. Size: 1/2 to 1 inch.
15. Color: Carnelian Red. Size: 1/2 to 1 inch.
16. Color: Yellow Onyx. Size: 1/2 to 1 inch.

G. Sea-Glass-Pebble:

1. Packing: Bags: 25 lb.
2. Color: Green-Size. Size: 1/2 inch to 1 inch.
3. Color: Ocean-Mix-Size. Size: 1/2 inch to 1 inch.
4. Color: Frost-Size. Size: 1/2 inch to 1 inch.
5. Color: Aqua-Size. Size: 1/2 inch to 1 inch.
6. Color: Blue-Size. Size: 1/2 inch to 1 inch.
7. Color: Peach-Size. Size: 1/2 inch to 1 inch.

H. Beach-Lava-Pebble:

1. Packing: Bags: 50 lb. Bags per Pallet: 49.
2. Color: Decorative Black Lava Beach Pebble. Size: 1/2 to 1 inch.
3. Color: Decorative Black Lava Beach Pebble. Size: 1 to 2 inch.
4. Color: Decorative Black Lava Beach Pebble. Size: 2 to 4 inch.
5. Color: Decorative Black Lava Beach Pebble. Size: 4 to 5 inch.
6. Color: Decorative Red Lava Beach Pebble. Size: 1/2 to 1 inch.
7. Color: Decorative Red Lava Beach Pebble. Size: 1 to 2 inch.
8. Color: Decorative Red Lava Beach Pebble. Size: 2 to 4 inch.
9. Color: Decorative Red Lava Beach Pebble. Size: 4 to 5 inch.

2.8 MOSAIC TILE

A. Basalt Mosaic Wall and Floor Tile: Basalt mosaic tile is provided in a mesh-backed, easy to install tile. Basalt is a naturally forming lava stone that has good strength and high density. Generally, basalt is black in color, but it can also vary from dark purple to sage green.

1. Hexagon 1 inch, PT-BM-H1. Size: 11 by 11.75 inches.
2. Hexagon 3 inch, PT-BM-H3. Size: 10 by 11.59 inches.
3. Hexagon 6 inch, PT-BM-H6. Size: 6 inch diameter.
4. Hexagon 10 inch, PT-BM-H10. Size: 10 inch diameter.

5. Subway 1 by 2 inches, PT-BM-S2. Size: 9.75 by 11.75 inches.
 6. Natural Break, PT-BM-N1. Size: 11.75 by 11.75 inches.
 7. Random Stack, PT-BM-R2. Size: 12 by 12 inches.
- B. Marble Mosaic Tile: Made with Carrara Marble. White with grey veining
1. Hexagon 1 inch, PT-MM-H1. Size: 11 inches by 11.75 inches
 2. Hexagon 3 inch, PT-MM-H3. Size: 10 inches by 11.50 inches
 3. Hexagon 6 inch, PT-MM-H6. Size: 6 inch diameter
 4. Hexagon 10 inch, PT-MM-H10. Size: 10 inch diameter
- C. Stacked Pebble Wall Tile: Stacked tiles or standing pebble tiles, are made by using sliced pebbles. These are attached to mesh backing.
1. Size: 4 by 12 inches.
 2. Size: 6 by 12 inches.
 3. Color: Stacked Seaside Earth PT-ST-EA
 4. Color: Stacked Seaside Ivory PT-ST-IV
 5. Color: Stacked Seaside Black PT-ST-BL
 6. Color: Stacked Seaside Cherry PT-ST-CY
 7. Color: Stacked Seaside Green PT-ST-GR
 8. Color: Stacked Seaside Tan PT-ST-TN
 9. Color: Stacked Polished Black PT-ST-PB
 10. Color: Stacked Seaside Mocha PT-ST-MA
 11. Color: Stacked Polished Mixed PT-ST-PM
 12. Color: Stacked Polished Red PT-ST-PR
 13. Color: Stacked Seaside Ocean Blend PT-ST-OB
- D. Micro Pebble Floor and Wall Tile: Micro Pebble Tile consists of small pebbles that enable the creation of very detailed mosaics and the flexibility to handle curved surfaces. The mesh backing cuts easily to make clean edges and tight mosaic placement.
1. Size: 12 by 12 inches.
 2. Color: Micro Charcoal PT-M-CH
 3. Color: Micro White PT-M-WH
 4. Color: Micro Ivory PT-M-IV
 5. Color: Micro Midnight PT-M-MD
 6. Color: Micro Green PT-M-GR
 7. Color: Micro Mixed PT-M-MX
 8. Color: Micro Earth PT-M-EA
 9. Color: Micro Sunrise PT-M-SR
 10. Color: Micro Coral PT-M-CO
 11. Color: Micro Lime PT-M-LM
 12. Color: Micro Melon PT-M-ML
 13. Color: Micro Mocha PT-M-MA
 14. Color: Micro Mint PT-M-MT
- E. Cut Pebble Floor and Wall Tile: Cut Pebble Tile consists of stones that are double cut, tumbled and attached to the mesh backing. The shape of the stone is visibly retained yet a flat surface is created.
1. Size: 12 by 12 inches.
 2. Color: Cut Aqua PT-CP-AQ
 3. Color: Cut Ivory PT-CP-IV
 4. Color: Cut Green PT-CP-GR
 5. Color: Cut Black PT-CP-BL
 6. Color: Cut Red PT-CP-RD
 7. Color: Cut Yellow PT-CP-YL
 8. Color: Cut White PT-CP-WH
 9. Color: Cut Olive PT-CP-OL

10. Color: Cut Cherry PT-CP-CY
 11. Color: Cut Tan PT-CP-TN
- F. Seaside Pebble Floor and Wall Tile: Seaside Pebble tile consists of slightly rounded and smooth stones. Can be coated with a sealer that to enhance the colors or give them a semi-gloss look.
1. Size: 12 by 12 inches.
 2. Color: Seaside Cherry PT-S-CY
 3. Color: Seaside Ivory PT-S-IV
 4. Color: Seaside Green PT-S-GR
 5. Color: Seaside Black PT-S-BL
 6. Color: Seaside Tan PT-S-TN
 7. Color: Seaside Earth PT-S-EA
 8. Color: Seaside River Rock PT-S-RR
 9. Color: Seaside Java Blend PT-S-JB
 10. Color: Seaside Sierra PT-S-SR
 11. Color: Seaside Bali Brown PT-S-BR
 12. Color: Seaside Ocean Blend PT-S-OB
 13. Color: Seaside Melon PT-S-ML
- G. Mosaic Pebble Floor and Wall Tile: Mosaic Pebble Tile consists of mesh-backed angular stones that create a pleasant natural patterning across large surfaces.
1. Size: 12 by 12 inches, interlocking pattern
 2. Color: Mosaic Emerald PT-MO-EM
 3. Color: Mosaic Grey PT-MO-GY
 4. Color: Mosaic Ivory PT-MO-IV
 5. Color: Mosaic Black PT-MO-BL
 6. Color: Mosaic Yellow PT-MO-YL
 7. Color: Mosaic Red PT-MO-RD
 8. Color: Mosaic Onyx PT-MO-OX
 9. Color: Mosaic Tan PT-MO-TN
- H. Large Mosaic Pebble Floor and Wall Tile: Large Mosaic Pebble Tile consists of mesh-backed larger angular stones that create a pleasant natural patterning across large surfaces.
1. Size: 18 by 18 inches, interlocking pattern
 2. Color: Large Mosaic Ivory PT-LM-IV
 3. Color: Large Mosaic Nero PT-LM-NR
 4. Color: Large Mosaic Tan PT-LM-TN
 5. Color: Large Mosaic Black PT-LM-BL
 6. Color: Large Mosaic Grey PT-LM-GY
 7. Color: Large Mosaic Red PT-LM-RD
- I. Porcelain Pebble Floor and Wall Tile: Porcelain Pebble Tile consists of kiln fired ceramic shapes are handset on a mesh backing.
1. Size: 11 by 11 inches, interlocking pattern
 2. Color: Porcelain Arctic White T-PO-AW
 3. Color: Porcelain Ocean PT-PO-OC
 4. Color: Porcelain Jet Black PT-PO-JB
 5. Color: Porcelain Sea Mist PT-PO-SM
 6. Color: Porcelain Matte Black PT-PO-MB
 7. Color: Porcelain Sunset PT-PO-SN
 8. Color: Porcelain Coral PT-PO-CL
 9. Color: Porcelain Cobalt PT-PO-CB
 10. Color: Porcelain Antique Bronze PT-PO-AB
 11. Color: Porcelain Mixed Copper PT-PO-MC
- J. Polished Pebble Floor and Wall Tile: Polished Pebble Tile polished pebble are handset on a

mesh backing.

1. Size: 12 by 12 inches, interlocking pattern
2. Color: Polished Black PT-P-BL
3. Color: Polished Mixed PT-P-MX
4. Color: Polished Red PT-P-RD
5. Color: Polished Stripe PT-P-ST
6. Color: Polished Yellow PT-P-YL
7. Color: Polished White PT-P-WH
8. Color: Polished Olive PT-P-OL

2.9 TRIM AND ACCESSORIES

- A. Metal Trim: Satin natural anodized extruded aluminum, stainless steel, brass, etc, style and dimensions to suit application, for setting using tile mortar or adhesive; use in the following locations:
 1. Open edges of floor tile.
 2. Transition between floor finishes of different heights.
 3. Thresholds at door openings.
 4. Expansion and control joints, floor and wall.
 5. _____.
- B. Stone Thresholds: Provide stone thresholds uniform in color and finish and fabricated as follows:
 1. Material: Marble, complying with ASTM C 503 for exterior use and with a minimum abrasive hardness of 10 when tested in accordance with ASTM C 241.
 2. Material: Granite complying with ASTM C 615.
 3. Material: Slate complying with ASTM C 629, abrasion resistant, non-fading for interior use with a honed finish.
 4. Color and Finish: As selected from the manufacturers standard range.
 5. Color and Finish: _____.
 6. Size: Fabricate 2 inches (50 mm) wide by full width of wall or frame opening; 1/2 inch (12 mm) thick; beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.
 7. Size: Fabricated in the sizes and profiles indicated.
 8. Provide transition between tile surface and adjoining finishes and at the following locations:
 - a. At doorways where tile terminates.
 - b. At open edges of floor tile where adjacent finish is a different height.
 - c. _____.

2.10 SETTING MATERIALS

- A. Tile Setting Materials: Comply with ANSI A108/A118/A136.1 as applicable to the installation methods referenced in Part 3 of this Section.
- B. Silicone Sealant: Silicone sealant, moisture and mildew resistant type, white; use for shower floors and shower walls.
- C. Patching and Leveling Compound: As recommended by tile manufacturer and compatible with both substrate and setting materials.
- D. Cleavage Membrane at Floors: Polyethylene film, ASTM D 4397, 4.0 mil thickness.
- E. Membrane at Walls: Polyethylene film, ASTM D 4397, 4.0 mil thickness.
- F. Cementitious Backer Board: High density, cementitious, glass fiber reinforced with 2 inch (50 mm) wide coated glass fiber tape for joints and corners:

1. Thickness: 1/4 inch (6 mm).
2. Thickness: 1/2 inch (13 mm).
3. Thickness: 5/8 inch (16 mm).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Acceptability of Surfaces: Inspect surfaces to be paved to verify that surfaces are free of curing membranes, oil, grease, wax and dust or other conditions that could result in an unsatisfactory installation.
- B. Substrate Tolerances: Before paving, inspect surfaces to verify that the following tolerances are not exceeded. If tolerances are exceeded, provide specified leveling coat to achieve specified tolerances.
 1. Floors: 1/8 inch in 10 feet (3 mm in 3 m) for dry-set mortar and epoxy; 1/16 inch in 3 feet (1.5 mm in 1 m) for organic adhesive; 1/4 inch in 10 feet (6 mm in 3 m) for sand bed.
 2. Walls: 1/8 inch in 8 feet (3 mm in 2.4 m) for dry-set mortar, epoxy and organic adhesives.

3.2 PREPARATION

- A. Layout: Determine locations joints before starting tile work. Layout tile work to minimize cuts less than one-half tile in size

3.3 INSTALLATION

- A. General: Comply with ANSI A108/A118/A136.1 and manufacturer's recommendations. Comply with applicable TCA Handbook for Tile Installation requirements as listed below.
- B. Floors, Exterior, Patios and Walkways:
 1. TCA F101, cement mortar, bonded.
 2. TCA F102, dry-set mortar.
 3. TCA F102, latex-Portland cement mortar.
- C. Floors, Exterior, Roof Deck, Membrane:
 1. TCA F103, cement mortar.
- D. Floors, Exterior, Balcony Deck:
 1. TCA F104, thin-set.
- E. Floors, Interior, Concrete Subfloor:
 1. TCA F111, cement mortar, cleavage membrane.
 2. TCA F112, cement mortar, bonded.
 3. TCA F113, dry-set mortar.
 4. TCA F113, latex-Portland cement mortar.
 5. TCA F114, cement mortar, epoxy grout.
 6. TCA F114, cement mortar, furan grout.
 7. TCA F115, latex-Portland cement mortar, epoxy grout.
 8. TCA F115, latex-Portland cement mortar, furan grout.
 9. TCA F116, organic adhesive.
 10. TCA F116, epoxy adhesive.
 11. TCA F200, poured gypsum underlayment, bonded.
 12. TCA F205, cementitious self leveling underlayment, bonded.
- F. Floors, Interior, Concrete Subfloor, Waterproof Membrane:
 1. TCA F121, cement mortar bed.

2. TCA F122, thin-set.
- G. Floors, Interior, Concrete Subfloor, Crack Isolation Membrane:
1. TCA F125, partial coverage.
 2. TCA F125A, full coverage.
 3. TCA F128, young concrete, uncoupling membrane.
- H. Floors, Interior-Chemical Resistant, Concrete Subfloor:
1. TCA F131, epoxy mortar and grout.
 2. TCA F132, epoxy mortar and grout on cementitious mortar bed.
 3. TCA F133, furan resin mortar and grout.
 4. TCA F134, epoxy mortar and grout.
 5. TCA F134, furan resin.
- I. Floors, Interior, Cork Underlayment on Concrete:
1. TCA F135, latex-Portland cement mortar with epoxy grout.
- J. Floors, Interior, Radiant Heat on Concrete:
1. TCA RH110, hydronic system.
 2. TCA RH111, poured gypsum underlayment, hydronic system, thin-set.
 3. TCA RH112, cementitious self-leveling underlayment, hydronic system, thin-set.
 4. TCA RH115, latex-Portland cement mortar, electric system.
 5. TCA RH116, cementitious self-leveling underlayment, bonded electric system thin set.
- K. Floors, Interior, Radiant Heat on Wood Subfloor:
1. TCA RH122, poured gypsum underlayment hydronic system thin-set.
 2. TCA RH123, cementitious self-leveling underlayment, hydronic system thin-set.
 3. TCA RH130, EGP (exterior glue plywood) latex-Portland cement mortar electric system.
 4. TCA RH135, backer board electric system thin-set.
 5. TCA RH140, cementitious self-leveling underlayment electric system.
- L. Floors, Interior, Wood Subfloor:
1. TCA F141, cement mortar.
 2. TCA F142, organic adhesive.
 3. TCA F143, epoxy mortar and grout.
 4. TCA F144, cementitious backer unit/fiber cement underlayment thin-set.
 5. TCA F145, cement mortar, metal lath.
 6. TCA F146, coated glass mat water-resistant gypsum backer board latex-Portland cement mortar.
 7. TCA F147, uncoupling membrane, 24 inch on center joist spacing, thin-set.
 8. TCA F148, uncoupling membrane, 19.2 inch on center joist spacing, thin-set.
 9. TCA F149, plywood underlayment, 24 inch on center joist spacing, EGP (exterior glue plywood) latex-Portland cement mortar.
 10. TCA F150, EGP (exterior glue plywood) latex-Portland cement mortar.
 11. TCA F151, coated glass mat water-resistant gypsum backer board, 24 inch on center joist spacing, latex-Portland cement mortar.
 12. TCA F152, membrane system, 24 inch on center joist spacing, latex-Portland cement mortar.
 13. TCA F155, OSB subfloor, 24 inch on center joist spacing, EGP latex-Portland cement mortar.
 14. TCA F160, EG/LWP (exterior glue/laminated wood panel underlayment) latex-Portland cement mortar.
 15. TCA F170, fiber-reinforced water-resistant gypsum backer board latex-Portland cement mortar.
 16. TCA F175, cementitious-coated foam backer board dry set mortar.
 17. TCA F175, cementitious-coated foam backer board latex-Portland cement mortar.

18. TCA F180, poured gypsum underlayment, 16 inch on center joist spacing.
 19. TCA F185, cementitious self leveling underlayment, 19.2 inch joist spacing, latex-Portland cement mortar.
- M. Walls, Exterior and Interior:
1. TCA W201, cement mortar.
 2. TCA W202, dry-set mortar.
 3. TCA W202, latex-Portland cement mortar.
- N. Walls, Interior, Masonry or Concrete:
1. TCA W211, cement mortar, bonded.
 2. TCA W215, spot-bonding epoxy.
- O. Walls, Interior, Solid Backing:
1. TCA W221, cement mortar.
 2. TCA W222, one-coat method.
 3. TCA W223, organic adhesive.
- P. Walls, Interior, Wood Studs or Furring:
1. TCA W231, cement mortar.
- Q. Walls, Interior, Metal Studs:
1. TCA W241, cement mortar.
 2. TCA W242, gypsum board organic adhesive.
- R. Walls, Interior, Wood or Metal Studs:
1. TCA W243, gypsum board thin-set.
 2. TCA W244C, interior, thin-set.
 3. TCA W244E, exterior, cementitious backer unit.
 4. TCA W244F, fiber cement underlayment.
 5. TCA W245, coated glass mat water-resistant gypsum backer board.
 6. TCA W246, cementitious-coated foam backer board.
 7. TCA W247, fiber-reinforced water-resistant gypsum backer board.
 8. TCA W260, spot-bonding epoxy cementitious backer unit.
- S. Ceilings, Soffits, Interior:
1. TCA C311, general.
 2. TCA C312, gypsum board.
 3. TCA C315, backer board.
- T. Bathtub Walls (No Showerhead), Wood or Metal Studs:
1. TCA B413, gypsum board.
- U. Bathtub/Shower Walls, Wood or Metal Studs:
1. TCA B411, cement mortar.
 2. TCA B412, cementitious backer unit/fiber cement underlayment.
 3. TCA B419, coated glass mat water-resistant gypsum backer board.
 4. TCA B425, cementitious-coated foam backer board.
 5. TCA B430, fiber-reinforced water-resistant gypsum backer board.
- V. Shower Receptors, Wood or Metal Studs:
1. TCA B414, cement mortar.
 2. TCA B415, cementitious backer unit/fiber cement underlayment.
 3. TCA B420, coated glass mat water-resistant gypsum backer board.
 4. TCA B421, solid backing, bonded waterproof membrane.
 5. TCA B422, solid backing with integrated bonding flange for bonded waterproof membranes.

- 6. TCA B426, cementitious-coated foam backer board.
 - 7. TCA B431, fiber-reinforced water-resistant gypsum backer board.
- W. Shower Receptor, Renovation:
- 1. TCA TR418, cement mortar.
 - 2. TCA TR420, thin-set.
- X. Countertops, Wood Base:
- 1. TCA C511, cement mortar.
 - 2. TCA C512, thin-set.
 - 3. TCA C513, backer board.
- Y. Steam Rooms, Membrane:
- 1. TCA SR613, cement mortar.
 - 2. TCA SR614, thin-set.
- Z. Renovation, Tile Over Tile:
- 1. TCA TR711, walls and floors, tile over other surfacing materials, organic adhesive, interiors only.
 - 2. TCA TR711, walls and floors, tile over other surfacing materials, dry-set mortar, interior and exterior.
 - 3. TCA TR711, walls and floors, tile over other surfacing materials, latex-Portland cement mortar, interior and exterior.
 - 4. TCA TR711, walls and floors, tile over other surfacing materials, tile-setting epoxy mortar.
 - 5. TCA TR711, walls and floors, tile over other surfacing materials, tile-setting epoxy adhesive.
 - 6. TCA TR711, walls and floors, tile over other surfacing materials, tile-setting modified epoxy emulsion mortar.
 - 7. TCA TR712, interior floors, tile over tile.
 - 8. TCA TR713, interior walls, tile over tile.
- AA. Tile Tubs, Fountains and Curbs, Waterproof Membrane: TCA B417, cement mortar.
- BB. Swimming Pools: TCA P601.
- CC. Stairs: TCA S151, cement mortar.
- DD. Refrigerator Rooms, Insulation: TCA R612, cement mortar.
- EE. Window Stools: TCA WS610.
- FF. Thresholds: TCA TR611.
- GG. Glass Tile: As recommended by manufacturer.
- HH. Metal and Metalized Tile: As recommended by manufacturer.
- 3.4 CLEANING AND PROTECTION
- A. Cleaning: Clean pavers using materials recommended by manufacturer.
 - B. Protection: Prohibit foot and wheeled traffic from floors for a minimum of 3 days. Where traffic is unavoidable, provide large flat boards in walkways and wheelways for a minimum of 7 days after installation. Protect from construction dirt and debris with heavy-duty, non-staining construction paper, masked in place.

3.5 SCHEDULES

- A. :
- B. :

END OF SECTION