SECTION 09 3000

TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Ceramic floor and wall finishes.
2. Marble thresholds.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Section 07 9200 - Joint Sealers.

1.2 REFERENCES

A. American National Standards Institute (ANSI):
1. A108/A118/A136.1 - American National Standard for Installation of Ceramic Tile.
2. A137.1 - Specifications for Ceramic Tile.

B. ASTM International (ASTM):
1. A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
2. A185/A185M - Standard Specification for Welded Steel Wire Reinforcement, Plain, for Concrete.
3. C144 - Standard Specification for Aggregate for Masonry Mortar.
4. C150 - Standard Specification for Portland Cement.
5. C207 - Standard Specification for Hydrated Lime for Masonry Purposes.
6. C847 - Standard Specification for Metal Lath.
7. C1028 - Standard Test Method for Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
8. D226 - Standard Specification for Asphalt Saturated Organic Felt Used in Roofing and Waterproofing.
9. D227 - Standard Specification for Coal-Tar Saturated Organic Felt Used in Roofing and Waterproofing.
10. D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
11. D4397 - Standard Specification for Polyethylene Sheeting for Construction, Industrial and Agricultural Applications.

C. Tile Council of North America (TCNA) - Handbook for Ceramic Tile Installation.

1.3 SUBMITTALS

A. Submittals for Review:
1. Product Data: Manufacturer's installation, cleaning, and maintenance instructions.
2. Samples:
a. Submit tile and grout samples for color selection by Owner.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years experience in work of this Section.

B. Tile and Trim Units: Meet ANSI A137.1, Standard Grade.

C. Static Coefficient of Friction for Floor Tile: Minimum 0.60, tested to ASTM C1028 in dry condition.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver mortar, adhesive, and grout containers bearing hallmark certifying compliance with reference standards.

B. Protect adhesive containers from freezing and overheating according to manufacturer's instructions.

1.6 PROJECT CONDITIONS

A. Environmental Requirements: Maintain minimum ambient temperature of 50 degrees F during and after installation.

1.7 MAINTENANCE

A. Extra Materials: 2 percent of each tile.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Tile:
1. American Marazzi Tile, Inc. (www.marazzitile.com)
2. American Olean Tile Co., Inc. (www.aotile.com)
3. Dal-Tile Corp. (www.daltileproducts.com)
4. Florida Tile Industries, Inc. (www.floridatile.com)
5. Interceramic USA. (www.interceramicusa.com)
6. Summitville Tiles, Inc. (www.summitville.com)

B. Acceptable Manufacturers - Setting and Grouting Materials:
1. Bostik Findley. (www.bostik-us.com)
2. Laticrete International, Inc. (www.laticrete.com)
3. Mapei Corp. USA. (www.mapei.com)
4. TEC. (www.tecspecialty.com)

C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Tile:
1. Size: Owner to select.
2. Edge: Cushioned.
3. Color: To be selected from manufacturer's full color range.
4. Finish: floor tile non-slip.

2.3 ACCESSORIES

A. Latex-Portland Cement Mortar: ANSI A118.4, polymer modified dry set type.

B. Dry Set Portland Cement Mortar: ANSI A118.1, polymer modified dry set type.

C. Epoxy Adhesive:
1. ANSI A118.3, thin set bond type.

D. Organic Adhesive:
1. ANSI A136.1, Type [1,] [2,] thin set bond type.

E. Portland Cement: ASTM C150, Type 1, white color.

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F. Sand: ASTM C144, clean, free of organic matter.

G. Lime: ASTM C207, Type S, hydrated.

H. Water: Clean, potable.

I. Grout:
   1. To be selected from manufacturer's full color range.

J. Thresholds: Class A white marble, honed finish, beveled both sides, radiused from bevels to vertical planes, one piece for full width of door or opening.

K. Joint Sealers: Specified in Section 07 9200.

L. Waterproof Membrane:
   1. Type: Load bearing, single component, cold liquid applied type, with reinforcing fabric.

M. Joint Tape: Waterproof, perforated bedding tape.

N. Reinforcing: ASTM A82/A82M or ASTM A185/A185M, 2 x 2 inches, 16 gage, welded wire mesh, hot dip galvanized.

O. Metal Lath: ASTM C847, expanded diamond mesh, hot dip galvanized.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean surfaces to remove loose and foreign matter that could impair adhesion.

B. Remove ridges and projections. Fill voids and depressions with patching compound compatible with setting materials.

C. Allowable Substrate Tolerances:
   1. Thin set method:
      a. Maximum variation in substrate surface: 1/8 inch in 8 feet.
      b. Maximum height of abrupt irregularities: 1/32 inch.
   2. Thick set method: Maximum 1/4 inch in 10 feet variation in substrate surface.

D. Test concrete substrate to ASTM D4263; do not install tile until surfaces are sufficiently dry.

3.2 INSTALLATION

A. Install waterproof membrane in accordance with manufacturer’s instructions.

B. Methods:
   1. Shower walls:
      a. Install tile in accordance with ANSI A108.4, thin set with organic adhesive.
   2. Shower floors:
      a. Surround floor drain with broken tile or crushed stone.
      b. Install tile in accordance with ANSI A108.1A, thick set with reinforced portland cement mortar.

C. Minimize pieces less than one half size. Locate cuts to be inconspicuous.

D. Make joints watertight, without voids, cracks, excess mortar, or excess grout. Align joints in wall and floor of same-sized tile.

E. Fit tile around projections and at perimeter. Smooth and clean cut edges. Ensure that trim will completely cover cut edges.

F. Install Trim:
   1. Inside corners: Cove units.
   2. Outside corners: Bead units.
   3. Base: Base units.
   4. Exposed tile ends: Bullnose units.

G. Install thresholds where tile abuts dissimilar floor finish. Center on door or opening.

H. Sound tile after setting and before grouting. Replace hollow sounding units.

I. Allow tile to set for a minimum of 48 hours before grouting.

J. Grout tile joints in accordance with ANSI A108.10 without excess grout.

3.3 ADJUSTING

A. Remove and replace pieces that have been damaged during installation.

3.4 PROTECTION

A. Provide protection for completed work using non-staining sheet coverings.

B. Prohibit traffic on tile floors for minimum 3 days after installation.

END OF SECTION

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