TERRAZZO TILE SPECIFICATION

SECTION 09 66 16

PART 1 – GENERAL

1.01 SUMMARY
  A. Types of Terrazzo Tile work included:
      1. Terrazzo Tile Floor and Wall Tile
      2. Terrazzo Tile Accessories
  B. Setting material, grouts, sealants and caulks
  C. Installation of Terrazzo Tiles
  D. Related work not specified under this section
      1. Sustainable Design Requirement: Section 01 81 13
      2. Concrete Floors: Section: 03 30 00
      3. Color, size, thickness, finish and type: Section 06 06 00 Schedule for finishes.
      4. Subfloor testing and preparation: Section 09 05 16

1.02 REFERENCES
  A. American Society for Testing and Materials (ASTM)
      1. ASTM C-140, C-293, C-373, C-609
      2. ANSI A137.1 9.6 section
  B. Tile Council of America (TCNA)
      1. Tile Council of North America (TCNA) Handbook – latest edition
  C. American National Standards Institute (ANSI)
      1. ANSI A108.1 through A108.22
      2. ANSI A118.1 through A118.15

1.03 QUALITY ASSURANCE
  A. Setting and Grouting Materials: Provide materials obtained from one source for each type, color of grout, and setting materials.
  B. TCNA Standards: Comply with specifications under the current Handbook for Tile Installation
  C. Manufacturer to supply written Terrazzo Tile protocol upon request.

1.04 DELIVERY, STORAGE AND HANDLING
  A. Packaging and Shipping: Terrazzo Tile to be delivered in original unopened packaging with legible manufacturer identification including size, color, manufacture date and job number.
  B. Nominal 12" x 12", 16" x 16" and 12" x 24" tiles are boxed, banded and palletized. Our 24" x 24" are unboxed, banded and palletized.
  C. Storage and Protection: Terrazzo Tile is to be stored indoors, in a climate-

controlled environment, sheltered from moisture in the original packaging. Protect from damage by other trades.

D. Report all damage due to shipment immediately. Customers are required to sign the Bill of Lading slip noting if there is damaged product. Picture proof is required.

1.05 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by the installation materials manufacturer for optimum results. Do not install products under environmental conditions outside the installation material manufacturer's absolute limits.

1.06 WARRANTY

A. Manufacturer/Installer shall warrant installed terrazzo tile and accessories for a period of one year from date of shipment against product defects.

B. Maintenance related matters are not considered a product defect and are not warrantable.

  1. The application and initial protectant are not covered under warranty.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Tile Manufacturer:

  1. Wausau Tile, Inc.

B. Clarification Note: Drawings and specifications are based on manufacturer's proprietary literature from Wausau Tile, Inc. Other manufacturers shall comply with minimum levels of material specifications and detailing indicated on the drawings specified herein.

C. Acceptable Installation Materials Manufacturer:

  1. Custom Building Products

2.02 MATERIALS

A. Portland Cement: ASTM C-150 Specifications for Portland Cement.

B. Aggregates: All aggregates meet ASTM C-33 specifications, cleaned and properly graded to size. Aggregate shall be blended to meet individual project requirements.

  1. The aggregates used have a natural color range and come in a variety of sizes and colors. Therefore, the aesthetic class/shade range as per ASTM test C609 will vary from a V1 rating to a V2 rating.

C. Marble chips, size to conform with NTMA gradation standards.

D. Coloring: Pigments used shall be inorganic, resistant to alkalinity and used per manufacturer's recommendations.

E. Mortar Beds
1. CUSTOM® Thick Bed Bedding Mortar
2. QUIKRETE® Floor Mud
3. Thin-Set & Mortar Admix
4. SpeedSlope® - Rapid Setting Sloping Mortar

F. Flowable Hydraulic Cement Underlayment (Self-Leveling Underlayment)
1. TechLevel™ 150 Self-Leveling Underlayment
2. TechLevel™ 100 Self-Leveling Underlayment
3. TechPrime™ A Acrylic Primer
4. TechPrime™ E 100%-Solids Epoxy Primer

G. Membranes:
1. Waterproofing – Thin, bonded, liquid-applied, complying with ANSI A118.10
a. RedGard® Crack Prevention and Waterproofing Membrane
b. CBP-232 Waterproofing and Anti-Fracture Membrane
2. Anti-Fracture/Crack Prevention – Thin, bonded, liquid-applied, complying with ANSI A118.12
a. RedGard® Crack Prevention and Waterproofing Membrane
b. CBP-232 Waterproofing and Anti-Fracture Membrane
c. FractureFree® Crack Prevention Membrane
3. Moisture Mitigation
a. TechMVC™ Moisture Vapor and Alkalinity Barrier

H. Adhesive Mortar (Bond Coat for cement terrazzo tile and mortar beds):
1. ProLite® Tile & Stone Mortar
2. VersaBond® HP High Performance Large & Heavy Tile Mortar
3. ProLite® Rapid Setting Tile & Stone Mortar (required over membranes)

I. Adhesive (Bond Coat for resin terrazzo tile and stair treads):
1. EBMLite™ Epoxy Bonding Mortar

J. Grouts
1. Prism® Ultimate Performance Grout
2. Polyblend® Plus Non-Sanded Grout
3. CEG-Lite™ 100% Solids Commercial Epoxy Grout

K. Caulks & Sealants:
1. CUSTOM® Commercial 100% Silicone Sealant
2. Urethane or Polyurethane Sealant
3. Color to be selected by architect from standard color pallet.

L. Cleaner: Liquid neutral chemical cleaner, with pH factor between 7 and 8, of
1. Formulation recommended by sealer manufacture for type of precast terrazzo
2. Used and complying with NTMA requirements.

M. Sealer: Scotchgard™ Stone Floor Protector (initial protectant) applied to the terrazzo tile prior to packaging.

2.03 MANUFACTURED UNITS
- A. Precast Surfaces and Edges:
    1. Chamfered face edges
    2. Surfaces to be uniform in appearance and free of blemishes
- B. Color to be selected from Wausau Tile, Inc. Terrazzo Tile color palette.
- C. Custom Colors and Blends
    1. Custom Colors or Color Matching prepared by request. It is the responsibility of the Architect, Designer or Owner to approve tile samples and corresponding precast samples prior to manufacture.
- D. Finish/Texture:
    1. Factory Polish or Honed.
    2. Back of tile will be ground flat and free from protrusions

2.04 FABRICATION
- A. Mechanically vibrated in molds.
- B. Hydraulically pressed
- C. Steam-cured
- D. Factory finish: In-line back and face grinding
- E. Factory applied initial protectant
- F. Packaged and palletized

PART 3 – EXECUTION

3.01 SOURCE QUALITY CONTROL & TESTING DATA
- A. Inspections: Documented inspection of Terrazzo Tile quality control tests.
- B. In house testing is completed daily adhering to ASTM standards.
- C. 11 13/16" x 11 13/16" x ½" thick Traditional Series Cement Terrazzo Tile
    1. Compression - ASTM C140 > 8,000 psi average
    2. Flexural - ASTM C293 > 900 psi average
    3. WT-C100 Cement Grout Stain Resistance - Passes at Factory
    4. C373 Water Absorption - Passes (Semi-Vitreous)
    5. C609 Color Uniformity - V1 – V2
    6. ANSI A137.1 Section 9.6.1 "Wet DCOF" - Passes at factory
- D. All records are kept at Wausau Tile, Inc. for a period of 5 years.

3.02 INSTALLATION
- A. The aggregates used have a natural color range. This can cause slight variances in overall color. Tiles should be blended at the job site from several cartons/pallets during installation
- B. All installations of Terrazzo Tile shall comply with the appropriate installation method as depicted in the current edition of the Tile Council of North America Handbook for

Ceramic, Glass, and Stone Installation.

C. The architect or other design professional shall select which methods to be specified. All Specifications must also conform to local codes, ordinances, trade practices, and climate conditions.

D. When setting Wausau Tile, Inc. Cementitious Terrazzo Tile, an ANSI A118.4 or A118.15 mortar is required. Only liquid applied ANSI A118.10 or A118.12 membranes may be used for waterproofing, anti-fracture or crack isolation. When setting over a membrane, rapid-setting ANSI A118.4 or A118.15 mortar is required. The setting materials manufacturer's printed installation instructions are to be followed in every instance.

E. A minimum of 95 percent thin-set coverage is recommended on the back of the tile with no voids exceeding two square inches and no voids with 2" of the edges. All corners and edges must be fully supported, and flat back-trowelling (back buttering) is required on tiles larger than 12" to reach these requirements.

F. ANSI A108.5 installation specifications that correspond with the selected TCNA Installation Method are required. This includes substrate and surfaces inspections, location and frequency of EJ171 Movement Joint Guidelines, Placement Techniques, and grouting procedures.
   1. Minimum recommended grout joint width is 1/8"
   2. Deflection requirement of L/360
   3. The maximum allowable substrate variation can be no more the 1/8" in 10' and 1/16" in 24".
   4. Concrete substrate to be absorptive as determined by ASTM F3191 test method.

G. Applied Initial Protectant - 3M Scotchgard™ Stone Floor Protector:
   1. The application and initial protectant are not covered under warranty.
   2. When using a heavy pigmented grout, it's recommended to use grout release prior to grouting. A test area is recommended to ensure the grout release was adequately applied.
   3. If a slight grout haze occurs, it can be effectively removed from the tile by using a 3M™ Eraser Pad 3600 Pink pad with water and or 3M™ Neutral Cleaner. A floor buffer might be recommended to assist in cleaning
   4. If a more difficult stain occurs, use a Scotch-Brite™ Doodlebug™ Easy Erasing Pad 4610 along with water and or 3M™ Neutral Cleaner. A floor buffer might be recommended to assist in cleaning.

H. All Application – Once the product is installed an additional coat of a topical seal will be required to protect the finished floor.

I. Acceptable Alternates to 3M Scotchgard™ Stone Floor Protector:
   1. Aqua Mix® Sealer's Choice® Gold
   2. Premium no-sheen, natural-look, low VOC, water-based penetrating sealer. Apply product per manufactures published instructions. To ensure maximum performance and expected wear of the sealer, use Aqua Mix cleaners.

3.03   CARE & MAINTENANCE
  A. Cleaning
    1. Follow sealer manufacturer recommendations.
    2. Dust mop or vacuum to remove sand, dust and other contaminants off the surface
    3. Clean up spills immediately and damp mop lightly soiled floors with a neutral cleaner per sealer manufacturer recommendations.
    4. For more aggressive cleaning follow sealer manufacturer's recommendations.
    5. If a stain occurs, consult the sealer manufacturer for recommendations.
    6. DO NOT use acidic cleaners, cleaners that contain citrus (d-limonene), 2-butoxyethanol (butyl cellusolve), amine-based cleaners, isopropyl alcohol, solvent based cleaners, degreasers, or non-neutral cleaners
    7. DO NOT use spray buff products or chemical dust mop treatments.

  B. Extended Care and Maintenance
    1. Follow sealer manufacturer recommendations
        A. Re-seal as needed