

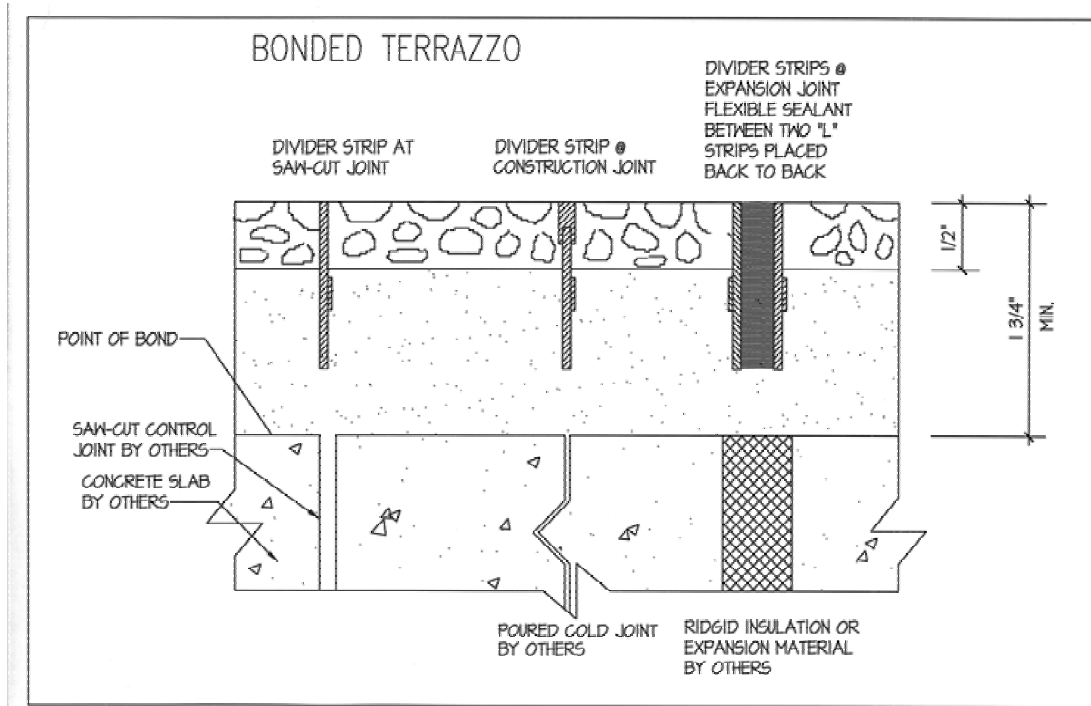
GUIDE SPECIFICATION FOR BONDED TERRAZZO

(Revise 6/94 Supersedes all previous specifications for Bonded Terrazzo)

SECTION 09

BONDED TERRAZZO

Minimum of 1-3/4 inches thick (1/2 inch nominal topping thickness over 1-1/4 inch nominal underbed) See Architectural Details.



PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED IN OTHER SECTIONS

Note: Delete nonapplicable items.

- A. Furnishing and installation of metal lath and scratch coat, Section _____
- B. Attachment of metal stairs, any welding and/or reinforcing, Section _____
- C. Furnishing and setting floor drains, Section _____
- D. Furnishing and setting surface hardware, Section _____
- E. Setting of metal base beads and wood grounds, Section _____

Note: Delete where jurisdiction permits terrazzo contractor to install.

- F. Concrete subfloor, Section _____

Note: Subfloor shall not vary more than 1/4 inch from true plane in 10 foot span with a broom finish free of laitance. No curing agents or other additives which could prevent bonding should be used. Saw cutting of control joints must be done between 12-24 hours after placement of the structural concrete.

- G. Broom clean area to receive terrazzo of loose chips and all foreign matter.
- H. Sufficient water, temporary heat and light, and adequate electric power with suitable outlets connected and distributed for use within 100 feet of any working space.

Note: Ambient temperatures shall be maintained at minimum of 50 degrees Fahrenheit.

1.02 QUALITY ASSURANCE

- A. Acceptable Suppliers:
 - 1. Suppliers shall provide materials in accordance with the NTMA standards.
- B. Acceptable Installer:
 - 1. Installer shall be a contractor member of NTMA and shall perform all work in accordance with NTMA standards.
 - 2. If installer is not a contractor member of NTMA, installer shall submit a list of completed projects of similar magnitude and complexity.

1.03 SUBMITTAL

- A. Samples:
 - 1. Submit a maximum of three samples, sizes 6 inches x 6 inches for each color and type of terrazzo specified.
 - 2. Submit two, 6-inch lengths of each type and kind of divider strip as specified.

- B. Maintenance Literature:
 - 1. Submit two copies of NTMA maintenance recommendations.
- C. Certification:
 - 1. Suppliers shall furnish certification attesting that materials meet specification requirements.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Delivery of Materials:
 - 1. Deliver materials in a manner to prevent damage to containers and/or bags.
- B. Storage of Materials:
 - 1. Store materials in a clean, dry, heated location furnished by others.

1.05 GUARANTEE

One year from date of completion of terrazzo installation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Portland Cement: ASTM C 150, Color _____
Note: Select white or gray. White cement is uniform in color. Gray Portland cement may not be uniform in color and may produce a variation of shade in the matrix. (See Product Information.)
- B. Sand: Clean, washed, locally available sand.
- C. Marble Chips:
 - 1. Size: To conform with NTMA gradation standards.
Note: See Product Information
 - 2. Abrasion and Impact resistance when testing in accordance with ASTM C 131-89 shall not exceed 40% loss.
 - 3. 24-hour absorption rate not to exceed 0.75%.
 - 4. Chips shall contain no deleterious or foreign matter.
 - 5. Dust content less than 1% by weight.
- D. Strips:
 - 1. Divider Strips _____ (gauge)
 _____ (material)
 with a depth of _____ (inches)
 for a topping thickness of _____ (inches.)
Note: (See Divider Strips.) Select gauge, material, and strip depth. Gauge: 18, 16, or 14 B & S gauge or 1/8, 1/4, or 3/8 inch heavy top. Material: White alloy of zinc, brass or plastic. Depth: 1-1/4 inches for 1/2 inch standard topping; 1- 1/2 inches for a 3/4 inch Venetian topping.
 - 2. Control Joint Strip: _____ (gauge)
 _____ (material)
 _____ (depth).

NOTE: SELECT GAUGE AND DEPTH OF SOLID METAL STRIPS POSITIONING STRIPS BACK TO BACK WITH OR WITHOUT TEMPORARY FILLER AS REQUIRED. GAUGE 16 OR 14 B & S GAUGE. DEPTH 1-1/4".
- E. Colorants: Alkali-resistant color stable pigments.
Note: Refer to NTMA Information Guide for further information.
- F. Curing Materials: Water, wet sand, or polyethylene sheeting.
- G. Terrazzo Cleaner:
 - 1. Ph factor between 7 and 10, where applicable.
 - 2. Biodegradable and phosphate free.
- H. Sealer:
 - 1. Ph factor between 7 and 10, where applicable.
 - 2. Shall not discolor or amber.
 - 3. Penetrating type specially prepared for use on terrazzo.
 - 4. Flash Point: ASTM D 56, 80 degrees Fahrenheit minimum, where applicable.
 - 5. U/L listed as "Slip Resistant".

2.02 MIXES

- A. Terrazzo Selection:
 - 1. Type: _____
Note: Select type or types: Standard or Venetian.
 - 2. NTMA Plate # _____
Note: Select color and design from NTMA Information Guide or Color Palette. Any deviation from NTMA plates must be clearly stipulated.
- B. Proportions:
 - 1. Underbed: One part Portland cement to four parts sand and sufficient water to provide workability at as low a slump as possible.
 - 2. Terrazzo Topping: One 94 pound bag of Portland cement per 200 - 220 pounds of marble chips, color pigment if required and sufficient potable water to produce a workable mix.
- C. Mixing:
 - 1. Underbed:
 - a: Charge and mix sand and Portland cement.
 - b: Add water and mix.
 - 2. Terrazzo Topping:
 - a: Charge and mix marble chips, Portland cement and color pigment if required.
 - b: Add water and mix to a uniform workable consistency.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine areas to receive terrazzo for:
 - 1. Defects in existing work that affect proper execution of terrazzo work.
Note: Structural cracks in substrate will usually be transmitted through topping to surface.
 - 2. Deviations beyond allowable tolerances for the concrete slab work.
- B. Start work only when all defects have been corrected by others.

3.02 INSTALLATION

- A. Underbed:
 - 1. Thoroughly saturate concrete subfloor with water, slush and broom neat cement paste.
 - 2. Place underbed mix.
 - 3. Screed underbed to elevation 1/2 inch below finished floor elevation or slope.
Note: Select 1/2 inch for standard topping or 3/4 inch for Venetian topping.
 - 4. Install divider strips as shown on drawings in semi-plastic underbed trowel firmly along edges.
 - 5. Install control joint strips back to back precisely above subfloor joints taking care that control joint is full depth of underbed.
- B. Placing Terrazzo:
 - 1. Saturate underbed with water.
 - 2. Place terrazzo mixture in panels formed by divider strips and trowel mixture to top of strips.
 - 3. Seeding of additional marble chips is optional.
 - 4. Roll and compact surface until all excess cement and water has been extracted.
 - 5. Trowel to a dense uniform flat surface disclosing lines of divider strips.
- C. Curing:
 - 1. After completing placement of terrazzo and composition has sufficiently set, cover with water, wet sand or polyethylene sheeting.
 - 2. Cure until topping develops sufficient strength to prevent lifting or pulling of terrazzo chips during grinding.
- D. Finishing:
 - 1. Rough Grinding:
 - a: Grind with 24 or finer grit stones or with comparable diamond plates.
 - b: Follow initial grind with 80 or finer grit stones.
 - 2. Grouting:
 - a: Cleanse floor with clean water and rinse.
 - b: Remove excess rinse water and machine or hand apply grout, taking care to fill voids.
 - 3. Cure grout:
Note: Grout may be left on terrazzo until all heavy and messy work on project is completed.
 - 4. Fine Grinding:
 - a: Grind with 80 or finer grit stones until all grout is removed from surface.
 - b: Upon completion, terrazzo shall show a minimum of 70% marble chips.
- E. Cleaning and Sealing:
 - 1. Wash all surfaces with a neutral cleaner.
 - 2. Rinse with clean water and allow surface to dry.
 - 3. Apply sealer in accordance with manufacturer's directions.
- F. Protection:
 - 1. Upon completion, the work shall be ready for final inspection and acceptance by the owner or his agent.
 - 2. The General Contractor shall protect the finished floor at the time that the Terrazzo Contractor completes the work.