

# GUIDE SPECIFICATION FOR SAND CUSHION TERRAZZO

(Revised 6/94 Supersedes all previous specifications for Sand Cushion Terrazzo)

## SECTION 09

### SAND CUSHION TERRAZZO

Minimum of 2-1/2 inches thick (1/2 inch nominal terrazzo topping, 2 inch nominal underbed includes sand dusting on concrete substrate.) 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 float finish.*

- 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.)

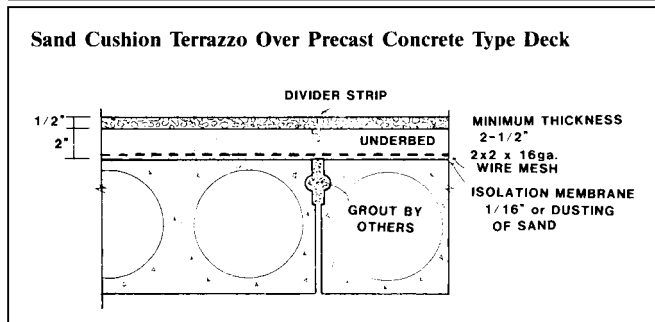
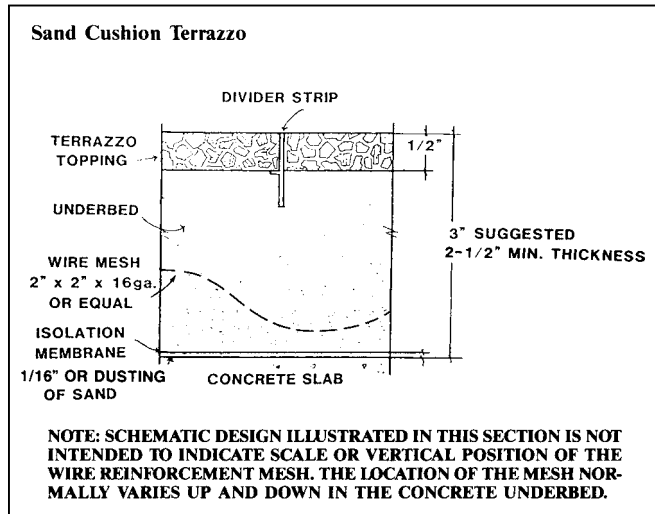
*Note: (See Divider Strips.) Select gauge, material, depth and topping thickness. Gauge: 18, 16, or 14 B & S gauge or 1/8, 1/4, or 3/8 inch heavy top. Material: White alloy of zinc, brass or plastic. Depth: 1-1/4 inches for 1/2 inch standard topping; 1-1/2 inches for a 3/4 inch Venetian topping.*

Employment of the normal single divider strips, regardless of gauge, inserted in the Sand Cushion underbed up to five foot or less on centers, provide ample control of the anticipated shrinkage that will take place when the terrazzo work is installed in accordance to these specifications as each divider picks up a minute amount of the contraction. Construction joints in the structural slab have no bearing on the placement of divider strips in a Sand Cushion systems due to the use of an isolation membrane. Designed expansion plates are the responsibility of others to design, furnish and properly install in the event that they are required.

- E. Colorants: Alkali-resistant color stable pigments.  
*Note: Refer to NTMA Information Guide for further information.*
- F. Reinforcement: ASTM A 185 16 or 18 gauge galvanized welded wire mesh.
- G. Isolation Membrane: ASTM D 2103 Type I3300, 4 mil. polyethylene sheeting or ASTM D 226, 15 pound unperforated roofing felt.
- H. Curing Materials: Water, wet sand, or polyethylene sheeting.
- I. Terrazzo Cleaner:
  - 1. Ph factor between 7 and 10, where applicable.
  - 2. Biodegradable and phosphate free.
- J. 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 Plates. 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 -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.
  - 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. Cover entire surface to receive terrazzo with dusting of sand.
  - 2. Install isolation membrane overlapping ends and edges a minimum of 3 inches.
  - 3. Install welded wire reinforcement:
    - a. Overlap wire at edges and ends at least 2 squares.
  - 4. Place underbed mix.
  - 5. Scream 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.*
  - 6. Install divider strips as shown on drawings in semi-plastic underbed and trowel firmly along edges.
- 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.