

# GUIDE SPECIFICATION FOR TERRAZZO OVER PERMANENT METAL FORMS

(Revised 6/94 Supersedes all previous Specifications for Terrazzo Over Metal Forms)

## SECTION 09

### TERRAZZO OVER PERMANENT METAL FORMS

Minimum thickness 3 inches from the point of the high ridge of the metal decking (1/2 inch Terrazzo topping with 2-1/2 inches of underbed).

#### PART 1-GENERAL

##### 1.01 RELATED WORK SPECIFIED IN OTHER SECTIONS

NOTE: DELETE NONAPPLICABLE ITEMS.

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

NOTE: DELETE IN CASES WHERE JURISDICTION PERMITS TERRAZZO CONTRACTOR TO INSTALL.

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

NOTE: AMBIENT TEMPERATURES SHALL BE MAINTAINED AT A MINIMUM OF 50 DEGREES FAHRENHEIT.

- H. Furnishing and setting reinforcement mesh,  
Section \_\_\_\_\_  
NOTE: 6 x 6 10-10 WELDED TO METAL FORMS 2 FEET APART AND ELEVATE 1/2" ABOVE METAL DECK AS DESIGNED BY ARCHITECT.

##### 1.02 QUALITY ASSURANCE

- A. Acceptable supplier:
  - 1. Materials furnished shall meet NTMA Specifications.
- B. Installer qualifications:
  - 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 a similar magnitude and complexity.

##### 1.03 SUBMITTAL

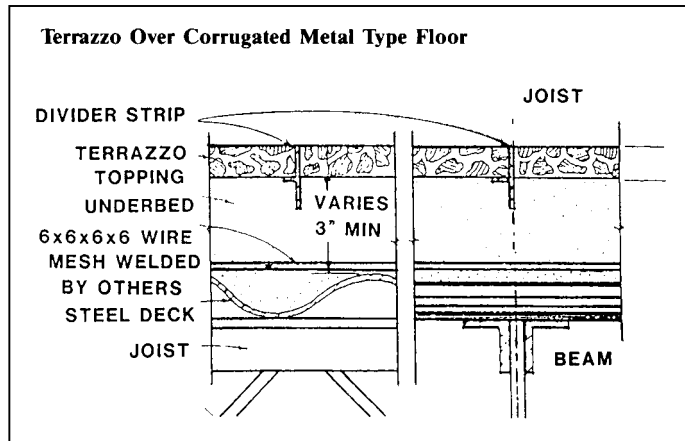
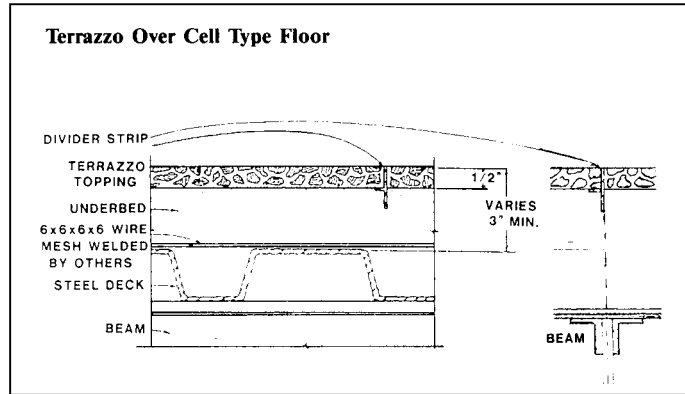
- A. Samples:
  - 1. Submit a maximum of three samples, minimum 6" x 6" for each color and type of rustic terrazzo.
  - 2. Submit two, 6" minimum lengths of each type and kind of divider strips.
- B. Maintenance Literature:
  - 1. Submit two copies of maintenance recommendations of NTMA or maintenance product members of NTMA.
- 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 and heated (if necessary) location.

##### 1.05 GUARANTEE

One year from date of substantial completion of Terrazzo installation.



## PART 2-PRODUCTS

### 2.01 MATERIALS

- A. Portland cement: ASTM C 150, Color \_\_\_\_\_  
*NOTE: SELECT AND SPECIFY WHITE OR GRAY FOR TERRAZZO TOPPING. 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. Aggregate: 3/8" – 1/2" crushed stone.
- D. 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.
- E. Strips:  
1. Divider Strips: \_\_\_\_\_ (gauge)  
\_\_\_\_\_ (material)  
with a depth of \_\_\_\_\_ (inches)  
for a topping thickness of \_\_\_\_\_ (inches).  
*NOTE: (SEE DIVIDER STRIPS) SELECT GAUGE, MATERIAL, 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. STRIP DEPTH: 1-1/4 INCHES FOR 1/2 INCH STANDARD TOPPING; 1-1/2 INCHES FOR A 3/4 INCH VENETIAN TOPPING.*
- F. Colorants: Alkali-resistant color stable pigments.  
*NOTE: REFER TO NTMA INFORMATION GUIDE FOR FURTHER INFORMATION.*
- G. Curing Material: WATER, WET SAND, OR POLYETHYLENE SHEETING.  
1. Ph factor between 7 and 10, where applicable.  
2. Biodegradable and phosphate free.
- I. 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 COLOR PLATES. ANY DEVIATION FROM NTMA PLATES MUST BE CLEARLY STIPULATED.*
- B. Proportions:  
1. Underbed: Portland cement, sand, aggregate, and sufficient water to achieve 4,000 psi at a 3" slump.  
*NOTE: ALLOW UNDERBED TO CURE FOR 72 HOURS BEFORE PLACING TERRAZZO TOPPING.*  
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, aggregate 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.  
2. Deviations beyond allowable tolerances.
- B. Start work only when all defects have been corrected by others.

### 3.02 INSTALLATION

- A. Underbed:  
1. Place underbed over reinforcement mesh placed and anchored by others in Section \_\_\_\_\_  
2. Install divider strips in underbed over center of joints.  
*NOTE: SEE SECTION ON STRIPS, SELECT DESIRED SPACING NOT TO EXCEED 4 FEET.*  
3. Install Strips precisely above all beam centers.  
4. Screenshot underbed to 1/2 inch below finished elevation.  
*NOTE: SELECT 1/2 INCH FOR STANDARD TOPPING OR 3/4 INCH OR VENETIAN TOPPING.*  
5. Allow underbed to cure for a minimum of 72 hours before placing terrazzo topping.
- B. Placing Terrazzo:  
1. Saturate underbed with water.  
2. Place terrazzo mixture in panels formed by divider strips and trowel mixture to top of surface.  
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 dense uniform flat surface disclosing lines of divider strips.
- C. Curing:
1. After completing placement of terrazzo and the 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 using identical Portland cement, color and pigments as used in topping, taking care to fill voids.
  3. Cure Grout:
    - a. Allow grout to cure.  
*NOTE: GROUT MAY BE LEFT ON TERRAZZO UNTIL FINE GRINDING WHICH SHOULD NOT BE SCHEDULED UNTIL ALL HEAVY AND MESSY WORK ON PROJECT IS COMPLETED.*
  4. Fine Grouting:
    - 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 from the time that the rustic terrazzo installer completes the work.