

GUIDE SPECIFICATION FOR POLYESTER TERRAZZO

(Revised 6/94 Supersedes all previous Specifications for Polyester Terrazzo)

SECTION 09

POLYESTER TERRAZZO

1/4 Inch Nominal Thickness.

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 mesh reinforcing.
Section _____
- C. Furnishing and setting of floor drains.
Section _____
- D. Furnishing and setting surface hardware.
Section _____
- E. Setting of metal base beads and wood ground,
Section _____

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

- F. Backing for Polyester Terrazzo base must be cement board or exterior grade plywood, concrete block, concrete or cement plaster.

- G. Concrete subfloor,
Section _____

NOTE: SUBFLOOR TO BE LEVEL (SHOULD NOT VARY MORE THAN 1/4" FROM A TRUE PLANE IN 10 FEET) AND HAVE A STEEL TROWEL FINISHED SURFACE. NO CURING AGENTS OR OTHER ADDITIVES WHICH COULD PREVENT BONDING SHOULD BE USED. THE SLAB SHOULD HAVE AN EFFICIENT MOISTURE BARRIER UNDER THE CONCRETE SLAB WHEN PLACED DIRECTLY ON GRADE. SAW CUTTING OF CONTROL JOINTS MUST BE DONE BETWEEN 12-24 HOURS AFTER PLACEMENT OF STRUCTURAL CONCRETE.

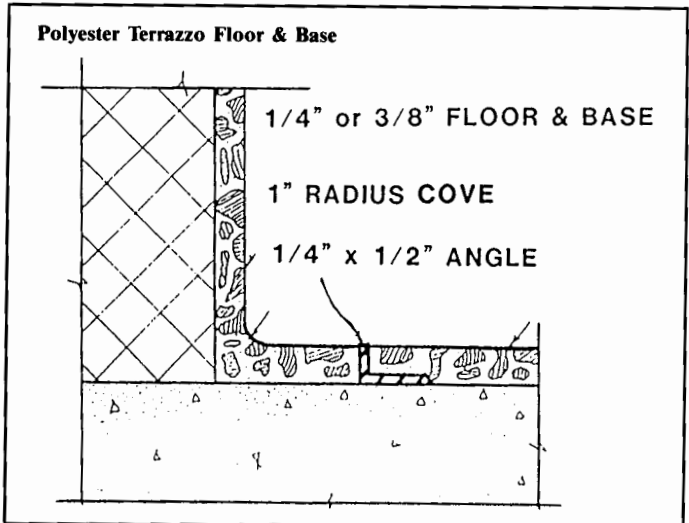
- H. Broom clean area to receive terrazzo of loose chips, laitance and all foreign matter.
- I. Sufficient water, temporary heat and light, and adequate electric with suitable outlets connected and distributed for use within 100 feet of any working space.
NOTE: AMBIENT FLOOR TEMPERATURE SHALL BE MAINTAINED AS PER MANUFACTURER RECOMMENDATIONS, MINIMUM 50 DEGREES FAHRENHEIT.

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, they 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 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.



- 2. Suppliers shall furnish properly labeled material and Material Safety Data Sheets which comply to current state and federal 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 (50 -90 degrees Fahrenheit) furnished by others.

1.05 GUARANTEE

One year from date of substantial completion of Terrazzo installation.

PART 2-PRODUCTS

2.01 MANUFACTURER MATERIALS TEST

- A. Primer: As recommended by polyester resin supplier.
- B. Polyester Resin: Resin shall perform in accordance with the following requirements:

Compressive Strength, psi	12,000	ASTM-D-695-61 T
Flexural Strength, psi	7,000	ASTM-D-790-61
Flexural Modulus, psi	500,00-700,00	
Tensile Strength, psi	5,000 min	ASTM-D-412
% Elongation	2.0-4.0	ASTM-D-412
Hardness, Shore D	60-85	ASTM-D-2240
Specific Gravity	2.3-2.4	ASTM-D-792
Water Absorption, % max.	0-0.15	ASTM-D-570
Abrasion Resistance, loss in Inches	0-.0001	Tabor Fed. Test
% Wt. Loss	.03	Method Std. #141 Method 6192-for 1000 cycles, using CS-17 wheels & 1000 gm load.

C. Polyester Terrazzo Mix

- 1. Curing Time: The Polyester Terrazzo shall cure within 18 hours in an atmosphere of 73 degrees Fahrenheit plus or minus 5 degrees and a relative humidity of 50 plus or minus 10 percent: in accordance with ASTM-C-308-77.
- 2. Shrinkage Resistance: The Polyester Terrazzo shall shrink not more than 1/32 inch in 12 inches and shall show no evidence of cracking, spalling or ridging.
- 3. Chemical Resistance: The Polyester terrazzo shall exhibit no evidence of change in color, blistering, cracking, peeling or loss of adhesion after 48 hours when tested in accordance with ASTM-C- 267-77.
- 4. Fumigant Resistance: The Polyester terrazzo shall show no

evidence of deterioration such as blistering, cracking, peeling or loss of adhesion upon cyclic exposure to formaldehyde, or beta prepicolactone in accordance with ASTM-C- 267-77.

5. Abrasion Resistance: The Polyester terrazzo shall lose not more than 1 mil thickness after 1,000 cycles of a Taber abramer when tested in accordance with Federal Test Method-6192.
6. Hardness: The Polyester terrazzo shall have a hardness of not less than 80 when tested in accordance with ASTM D- 2240-75.
7. Porosity: The Polyester Terrazzo shall gain not more than 8 percent in weight and shall exhibit no evidence of cracking, peeling, blistering or loss of adhesion after submersion in distilled water for 24 hours when tested in accordance with ASTM-D-570-77.
8. Water Absorption: ASTM-D-570, 24 hours, 0.10 max.
9. Impact Resistance: The Polyester terrazzo shall show no evidence of cracking, spalling, or loss of adhesion after exposure to a minimum of 144 inch pounds of force in a Gardner impact test.
10. Thermal Shock Resistance: The Polyester Terrazzo shall not crack, peel, blister, spall or lose adhesion after 50 cycles of immersion in chilled and boiling water at 2-minute intervals.
11. Stain Resistance: The Polyester terrazzo shall not retain a permanent stain when exposed for 24 hours to staining agent when tested in accordance with ASTM-D-1308-57.
12. Flammability: The Polyester terrazzo shall obtain a rating of "self extinguishing" when tested in accordance with ASTM-D-635-63.
13. Compressive Strength: ASTM-C-579 - 8,000 psi min.
14. Bond Strength: ACI Committee #403 - 100% concrete failure, and 200 psi minimum tensile strength.

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 percent.
4. Chips shall contain no deleterious or foreign matter.
5. Dust content less than 1% by weight.

E. Strips:

1. Stop and divider "L" strips _____ gauge.
(Select gauge white alloy of zinc or plastic. Consult with manufacturer of epoxy resin if brass strips are desired)
NOTE: SELECT GAUGE FROM FOLLOWING GAUGE 18, 16, OR 14 B & S GAUGE OR 1/8 , 1/4 OR 3/8 INCH HEAVY TOP "L" OR "K" TYPE.
2. Construction joint double "L" strips, back to back...16 gauge white alloy zinc or brass material.

F. Terrazzo Cleaner:

1. Ph factor between 7 and 10, where applicable.
2. Free from crystallizing salts or water soluble alkaline salts.
3. Biodegradable and phosphate free.

G. Sealer:

1. Ph factor between 7 and 10, where applicable.
2. Shall not discolor or amber.
3. Flash point: ASTM D-56, 80 degrees Fahrenheit minimum, where applicable.
4. U/L listed as "Slip Resistant."

2.02 MIXES

A. Terrazzo Selection:

1. Type: _____
NOTE: SELECT COLOR AND DESIGN FROM NTMA INFORMATION GUIDE OR COLOR PLATES. ANY DEVIATION MUST BE CLEARLY STIPULATED.

B. Proportions:

1. Polyester Terrazzo Topping: In accordance with resin supplier's recommendations.

C. Mixing:

1. Terrazzo Topping: Charge and mix marble chips, filler and polyester resin in accordance with manufacturer's recommendations.

PART 3-EXECUTION

3.01 INSPECTION

- A. Examine areas to receive terrazzo for defects in existing work that work that affect proper execution of terrazzo.

1. Defects in existing work that affect proper execution of terrazzo.

NOTE: CRACKS IN SUBSTRATE WILL USUALLY BE TRANSMITTED THROUGH TOPPING TO SURFACE.

2. Deviations beyond allowable tolerance for the concrete slab work.

NOTE: SUBFLOOR NOT TO VARY MORE THAN 1/4 INCH FROM A TRUE PLANE IN 10 FEET. POLYESTER TERRAZZO, AS SPECIFIED, IS NOT INTENDED TO LEVEL SUBSTRATE AND WILL ONLY FOLLOW THE CONTOUR OF THE CONCRETE SLAB. IF, FOR ANY REASON, THE SUBCONTRACTOR QUESTIONS THE SUITABILITY OF THE SUBSTRATE FOR BONDING, ANY WORK REQUIRED TO ELIMINATE NON-CONFORMITY OF SUBSURFACE SPECIFICATIONS IS THE RESPONSIBILITY OF OTHERS. ANY MATERIALS USED TO CORRECT NONCONFORMITY MUST BE COMPATIBLE WITH POLYESTER SYSTEM SELECTED AND BE APPROVED BY THE TERRAZZO CONTRACTOR.

- B. Start work only when all defects have been corrected by others.

3.02 INSTALLATION

A. Subfloor:

1. Prepare substrate to receive polyester terrazzo.
2. Install control joints directly above control joints in subfloor.
3. Install divider strips as shown on drawings.

B. Placing Terrazzo:

1. Prime subfloor in accordance with resin supplier's recommendations.
2. Place terrazzo mixture and trowel to a dense flat surface to top of divider strip.

C. 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 terrazzo with clean water and rinse.
 - b. Remove excess rinse water and hand apply grout using identical color as used in topping, taking care to fill voids.
3. Cure Grout.
NOTE: GROUT MAY BE LEFT ON TERRAZZO UNTIL ALL HEAVY AND MESSY WORK IN 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% of marble chips.

D. Cleaning and Sealing:

1. Wash all surfaces with a neutral cleaner after fine grinding.
2. Rinse with clean water and allow surface to dry.
3. Apply sealer in accordance with manufacturer's directions.

E. 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 work from the time that the flooring contractor completes the work.