

GUIDE SPECIFICATIONS FOR FINE AGGREGATE EPOXY FLOORS (INTERIOR USE ONLY)

(Revised 6/94 Supersedes all previous Specifications for Aggregate Epoxy Floors)

SECTION 09

FINE AGGREGATE EPOXY FLOORS

1/8 inch nominal thickness-decorative, broadcast ceramic or otherwise coated aggregate epoxy flooring.

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 Fine aggregate epoxy base must be cement board or exterior grade plywood, concrete block, concrete or Cement plaster.
- G. Concrete subfloor,
Section _____

NOTE: CONCRETE SUBFLOOR TO BE LEVEL (MAXIMUM VARIATION NOT TO EXCEED 1/4 INCH 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 epoxy 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 epoxy flooring.
 - 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.
 - 3. Submit two copies of manufacturers maintenance recommendations.

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 epoxy flooring installation.

PART 2-PRODUCTS

2.01 MATERIALS

- A. Primer: As recommended by Epoxy resin supplier.
- B. Epoxy resin mixed according to manufacturer's recommendations and tested without aggregate added. All specimens cured for 7 days at 75 degrees plus or minus 2 degrees Fahrenheit and 50% plus or minus 2% R.H. The product shall meet the following requirements.

PROPERTY	TEST METHOD	REQUIREMENT
HARDNESS	ASTM D-2240 using Shore D Durometer	60-85
TENSILE STRENGTH	ASTM D-638 run at 0.2" min. Specimen made using "C" die listed in ASTM D-412	3,000 PSI min.
TENSILE ELONGATION	ASTM-D-638 run at 0.2"/min. Specimen made using "C" die listed in ASTM D-412	5.0% min.
COMPRESSIVE STRENGTH	ASTM D-695, Specimen B Cylinder	10,000 psi min
FLEXURAL STRENGTH	ASTM-D-790	6,000 psi min
FLEXURAL MODULUS OF ELASTICITY	ASTM-D-790	1 x 10 ⁴ PSI min
LINEAR SHRINKAGE	ERF-64	0.001 inches/one inch max.
ABRASIVE RESISTANCE		ASTM-C-501 72 Mg.
CHEMICAL RESISTANCE:	Federal test method standard 406 method 7011, 7-day immersion. Mineral oil - no effect ASTM No. 3 oil - no effect Lard - no effect Isopropanol - no effect Ethanol - no effect 10% Hydrochloric Acid - no effect 30% Sulfuric Acid - no effect 5% Acetic Acid - no effect	

0.025% Detergent - no effect
1% Soap Solution - no effect
10% Sodium Hydroxide - no effect
Distilled Water - no effect

C. Bond Strength:

When tested in accordance with Field Test Method for surface soundness and adhesion as described in ACI Committee No. 403 Bulletin Title 59-43 (Pages 1139-1141), the Epoxy resin shall comply with the following value 100% concrete failure minimum with 300 psi minimum tensile strength.

D. Fine Aggregate:

1. Ceramic coated translucent quartz.

NOTE: CERAMIC COATED TRAP ROCK OR OTHER DARK FINE AGGREGATE SHOWS DISCOLORATION WITH WEAR.

E. Grout coat: As recommended by epoxy resin supplier.

F. Seal coat: As recommended by epoxy resin supplier.

2.02 MIXES

A. Color: Select from color blends provided by supplier.

B. Proportions: In accordance with resin supplier recommendations.

PART 3-EXECUTION

3.01 INSPECTION

A. Examine areas to receive fine aggregate epoxy flooring for:

1. Defects in existing work that affect proper execution of epoxy flooring.

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 TRUE PLANE IN 10 FEET. EPOXY 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 EPOXY 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 fine aggregate flooring in accordance with manufacturer's recommendations.

2. Install control joints, if required, precisely above substrate joints.

3. Install divider strips, if required.

B. Placing epoxy flooring:

1. Install floor system in strict accordance with manufacturer's instructions.

NOTE: SPECIFIED SYSTEM IS INTENDED TO BE A DECORATIVE "BROADCAST" SYSTEM. IF TROWELED PROCESS IS USED, SURFACE WILL SHOW TROWEL IRREGULARITIES WHICH CANNOT BE SANDED BY GRINDING.

C. Grout coat: Install in strict accordance with epoxy resin suppliers instructions.

D. Seal coat: Apply in strict accordance with epoxy resin suppliers instructions.

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.