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This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM) including *MasterFormat*™, *SectionFormat*™ and *PageFormat*™. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []. Delete optional text in the final copy of the specification. Specifier Notes typically precede specification text; delete notes in the final copy of the specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies glass aggregates for epoxy-resin terrazzo flooring. This product is manufactured by Heritage Glass, Inc. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

SECTION 09 66 23
RESINOUS MATRIX TERRAZZO FLOORING

PART 1 GENERAL

1.01 SUMMARY

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

1.02 REFERENCES

A. ASTM International (ASTM):

1. ASTM D56 Standard Test Method for Flash Point by Tag Closed Cup Tester.
2. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension.
3. ASTM D471 Standard Test Method for Rubber Property—Effect of Liquids.
4. ASTM D543 Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents.
5. ASTM D638 Standard Test Method for Tensile Properties of Plastics.
6. ASTM D695 Standard Test Method for Compressive Properties of Rigid Plastics.
7. ASTM D790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
8. ASTM D968 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
9. ASTM D2240 Standard Test Method for Rubber Property - Durometer Hardness.
10. ASTM G23 Standard Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Section [01 33 00 - Submittals Procedures] [_____].



1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [_____].
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA® sheet, for specified products.
- C. Shop Drawings: Submit layout and details of joint, expansion and abrasive strips. Show relationship to adjacent finishes, adjacent construction and building structure.
- D. Samples: Submit 6 inch x 6 inch (152 x 152 mm) samples of each type and color of terrazzo.
- E. Quality Control Submittals:
 - 1. Test Reports: Report of field test for substrate moisture level.
 - 2. Certificates: Resin manufacturer's certification that the installer is acceptable.
 - 3. Manufacturer's Instructions: Manufacturer's installation instructions.
- F. Contract Closeout Submittals:
 - 1. Maintenance Data: Resin manufacturer's cleaning and maintenance instructions.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 01 Quality Assurance Section.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Acceptable to the resin manufacturer.
- B. Regulatory Requirements: In accordance with Section [01 41 00 - Regulatory Requirements] [_____].
- C. Mock-Ups: Provide a 4 foot x 4 foot (1.22 x 1.22 m) minimum mock-up showing colors, textures and joint strips. Approved mock-up will serve as a standard by which the work will be judged. Remove mock-up after terrazzo work is complete and prior to Substantial Completion.

1.05 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Section [01 61 00 - Common Product Requirements] [_____].
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 EPOXY-RESIN TERRAZZO FLOORING

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Glass Aggregate Manufacturer: Heritage Glass, Inc.
 - 1. Contact: 130 W. 700 S., Bldg. E, Smithfield, UT 84335; Telephone: (435) 563-5585; Fax: (435) 563-5583; E-mail: hg@heritageglass.net, website: www.heritageglass.net.

2.02 MATERIALS

- A. Epoxy Resin:
 - 1. Shore D Hardness (ASTM D2240): 60 - 85.
 - 2. Tensile Strength (ASTM D638): Not less than 4000 psi (27,579 kPa) using a test rate of 0.2 inch (5.08 mm) per minute with C die (ASTM D412).

3. Tensile Elongation (ASTM D638): Not less than 5% using a test rate of 0.2 inch (5.08 mm) per minute with C die (ASTM D412).
4. Compressive Strength (ASTM D695): Not less than 14,000 psi (96,526 kPa).
5. Flexural Yield Strength (ASTM D790): Not less than 6500 psi (44,815 kPa).
6. Tangent Modulus of Elasticity (ASTM D790): Not less than 10,500 psi (72,394 kPa).
7. Abrasion Resistance (ASTM D968): Not more than 0.1 gram (0.003 ounce) loss per 5 gal (19 L) of silica sand when tested with Method A.
8. Fading Resistance (ASTM G23): No discoloration or other physical changes after 48 hours exposure when tested with Method 1.
9. Chemical Resistance (ASTM D543): No effect when immersed for 7 days in the following agents:
 - a. Mineral oil.
 - b. No. 3 oil (ASTM D471).
 - c. Lard.
 - d. Isopropanol.
 - e. Ethanol.
 - f. 10% hydrochloric acid.
 - g. 30% sulfuric acid.
 - h. 5% acetic acid.
 - i. 0.025% detergent.
 - j. 1% soap solution.
 - k. 10% sodium hydroxide.
 - l. Distilled water.

B. Glass Aggregates:

Specifier Note: Select size below and insert color.

1. Size: [00] [0] [1] [2] [3] [4 to 6].
2. Color: [_____] [As indicated on the drawings].

2.03 ACCESSORIES

Specifier Note: Insert a description of joint strips in paragraphs below, if they are not described on the drawings.

A. Joint Strips:

Specifier Note: Insert text to describe configuration of joint strips in paragraphs below.

1. Type: [_____] [As indicated on the drawings].
 2. Depth: [_____] [As indicated on the drawings].
 3. Gauge: [_____] [As indicated on the drawings].
 4. Width of Heavy Top Style Strips: [_____] [As indicated on the drawings].
 5. Expansion Joint Strips: [_____] [As indicated on the drawings].
 6. Materials: [Zinc] [Brass] [Black plastic] [White plastic] with [Black] [White] neoprene filler for expansion joint strips.
- B. Joint Strip Adhesive: Trowel grade adhesive as recommended by the joint strip manufacturer that will provide for secure, level and stable anchorage to substrate until terrazzo materials have been placed and cured.
- C. Abrasive Strips:
1. Channel: White zinc alloy formed to receive abrasive strips.

2. Abrasive: Silicon carbide strips.
- D. Primer: As recommended by resin manufacturer.
- E. Cleaner: Non-ionic neutral detergent; biodegradable; phosphate free; with pH 7 - 10 and as recommended by sealer manufacturer.
- F. Sealer: Non-coloring and non-yellowing with pH 7 - 10 and formulated for polished resinous terrazzo.
 1. Flash Point (ASTM D56): 80 degrees F (27 degrees C) minimum.

2.04 MIXES

- A. Terrazzo Mix:
 1. Provide resin and aggregates in colors and proportions to match samples on display in the architect's office.
 2. Mix in accordance with the resin manufacturer's recommendations.

2.05 PRODUCT SUBSTITUTIONS

- A. Substitutions: Substitutions in accordance with Section [01 25 13 - Product Substitution Procedures] [No substitutions permitted] [_____].

PART 3 EXECUTION

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions are acceptable for product installation in accordance with manufacturer's instructions.

3.03 CLEANUP

- A. Proceed in accordance with Section [01 74 23 - Final Cleaning] [_____].
- B. Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION