

# **ARCHITECTURAL GUIDE SPECIFICATION**

MASTERFORMAT SECTION 096700 – FLUID-APPLIED FLOORING

## **Acrydur MMA QUARTZ SLT** **1/8"**

*Note to Specifier: This guide specification has options or notes bordered with brackets or parentheses that require editing. Please consult with Plasti-Chemie to confirm which options or notes may be necessary for your specific project.*

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

##### **A. Section Includes:**

1. Fluid applied seamless flooring and integral formed base.
2. Joint, edge, and termination strips.
3. Prior to installation of structural floor slab, advise [General Contractor] [Construction Manager], in writing, of all requirements of concrete substrate regarding finish, level tolerance, curing and below substrate vapor barrier; see INSPECTION in Part 3.
4. Locate all flexible joints required. See submittals below.
5. Accessories necessary for complete installation.

##### **B. Related Sections:**

1. Cast-in-Place Concrete: Section 03300.
  - a. Concrete sub-floor to be level (maximum variation not to exceed ¼ inch in 10 feet) and to have a steel troweled finish. No curing agents or other additives which could prevent bonding should be used unless the mechanical surface preparation method completely removes the curing agent residue or sealer.
  - b. Slabs on grade must have an efficient puncture resistant vapor barrier placed directly under the slab.
2. Sealants: Section 07920.
3. Gypsum Drywall: Section 09250.
4. Adjacent floor finishes: Division 9.

## 1.02 REFERENCE STANDARDS

The publications listed below from a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

### A. American Society for Testing and Materials (ASTM) Publications:

- C-307 Test Method for Tensile Strength of Chemical-Resistant Mortars.
- C-501 Test Method for Relative Resistance to Wear Unglazed Ceramic Tile by the Taber Abraser.
- C-531 Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacing.
- C-579 Test Methods for Compressive Strength of Chemical-Resistant Mortars and Monolithic Surfaces.
- C-580 Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacing.
- C-884 Test Method for Thermal Compatibility Between Concrete and a Polymer Resin Overlay.
- D-570 Water Absorption of Plastics.
- D-695 Compression Properties of Rigid Plastic.

### B. Military Specifications (Mil. Spec.)

- MIL D-3 134 F (Impact Resistance) Section 4.7.3.
- MIL D-3 134 F (Indentation Resistance) Section 4.7.4.
- MIL D-3234 F (Resistance to Elevated Temperature) Section 4.7.5.

### C. ACI 301 Specifications for Structural Concrete for Buildings (most recent edition). Committee in Concrete 403/503 bulletin 59-43, Bond Strength to Concrete.

## 1.03 DEFINITIONS

- A. MMA Quartz Resin Flooring specified under this section is referenced on the drawings as [\_\_\_\_\_].

## 1.04 SYSTEM DESCRIPTION

- A. System shall be a 1/8 inch MMA (methyl methacrylate) resin surfacing broadcasted with colored quartz aggregate. Surface finish shall be a chemically cured clear MMA resin.

## 1.05 SUBMITTALS

- A. Samples: Submit 6 by 6 inch cured samples of flooring system indicating color combination and non-skid properties. Approved samples will be used during installation for product match.

- B. Certified Test: Submit two copies of suppliers/ manufacturers written certification that flooring system meets or exceeds required properties.
- C. Manufacturers Application Instructions: Submit descriptive data and specific recommendations for mixing, application, curing including any precautions of special handling instructions required to comply with the Occupational Safety and Health Act.
- D. Shop Drawings: Shop Drawings shall be furnished showing installation of cove base and termination details, and details at floor material transitions and where adjoining equipment.
  - 1. Locate and provide detailing for flexible joints required for flooring in area of installation.
- E. Maintenance Instructions: Submit current copies of the flooring manufacturer's printed recommendations on maintenance methods and products. Submit in accordance with Section 01730 - Operation and Maintenance Manuals.

#### **1.06 QUALITY ASSURANCE**

- A. Materials used in the floor surfacing shall be the products of a single manufacturer.
- B. Installation shall be performed by an applicator with minimum 3 years experience in work of similar nature and scope. Installer must be approved by the manufacturer of the floor surfacing materials. The contractor shall furnish a written statement from the manufacturer that the installer is acceptable.
- C. Installer to verify locations of all flexible joints required by the provisions of this Section and by the recommendations of the related material manufacturers.
  - 1. Joint locations may or may not be shown in drawings.
  - 2. Refer to drawings required under SUBMITTALS above.
- D. Installer to keep daily log of the date of installation, room number, type, color, and method of application of product being installed. Log must be available for inspection by the Architect upon request.
- E. Contractor to have proven experience with specified system.
- F. Portable mock-up: Prior to starting application of flooring, provide full scale portable mock-up to establish acceptable quality, durability, and appearance. Mock-up size must not be less than 4 square feet.
  - 1. Acceptable mock-up to be standard of quality for installed work.
  - 2. Unacceptable installed work to be removed and replaced until acceptable. Aesthetically unacceptable but well bonded work may be overlaid or recoated per Manufacturer's instructions if thickness clearances permit.
- G. Qualifications:
  - 1. Installer: Must be acceptable to Manufacturer.

### **1.07 PROJECT CONDITIONS**

- A. Concrete to receive surfacing shall have cured for at least 28 days and shall have been free of water for at least 7 days.
- B. Dew Point: Substrate temperature must be minimum of 5 degrees above dew point prior to, during or up to 24 hours after application of flooring system.
- C. Illumination: Apply flooring system only where a minimum of 30 footcandles exist when measured 3 feet from surface.
- D. Advise other trades of fixtures and fittings not to be installed until flooring is cured and protected.

### **1.08 PROTECTION**

- A. Protect adjacent surfaces not scheduled to receive the flooring by masking, or by other means, to maintain these surfaces free of the flooring material.
- B. Provide adequate ventilation and fire protection at all mixing and placing operations. Prohibit smoking or use of spark or flame producing devices within 50 feet of any mixing or placing operation.
- C. Provide polyethylene or rubber gloves or protective creams for all workmen engaged in applying products containing epoxy.

### **1.09 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. All materials shall be delivered to project site in original manufacturer's sealed containers including type of material, batch numbers, date of manufacture, and pertinent labels intact and legible.
- B. Store materials in dry protected area at a temperature between 60° F to 80° F.
- C. Follow all manufacturer's specific instructions and prudent safety practices for storage and handling.

### **1.10 WARRANTY**

- A. Contractor to guarantee work under this Section to be free from defects of material and installation for the duration of the warranty period. Defects occurring during warranty period shall be repaired, in a manner satisfactory to the Owner and the Architect, at no additional cost to the Owner.
  - 1. Warranty Period: One (1) Year.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Specification based on Plasti Chemie North America LLC. "Acrydur MMA Quartz SLT" grouted and sealed with clear Acrydur 526 MMA.
- B. Alternative manufacturers must have as a minimum the standards set forth in this specification and must be preapproved in accordance with project requirements.

## **2.02 MATERIALS**

- A. Cementitious Tile Backboard: See Section 09250 - Gypsum Drywall.
- B. Prime Coat: Low viscosity MMA.
- C. Aggregates:
  - 1. Colored quartz, 20 mesh average.
- D. Matrix: MMA/aggregate composition.
- E. Grout and Topcoats:
  - 1. Clear MMA grout

## **2.04 MIXING**

- A. Apply MMA flooring to specified physical properties.
- B. Physical Properties as summarized in manufacturer's product data sheet.
- C. Provide chemical resistant, cleanable finish. Samples to be approved by Owner and Architect.
- D. Provide 4 inch [6 inch] integral coved base, typically.

## **2.05 FINISHES**

- A. Color as selected by Architect from manufacturer's available color blends.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Obtain Architect's approval of mock-up before installing flooring; see QUALITY ASSURANCE in **PART 1**.
- B. Preparation of Surface:
  - 1. Inspect surfaces to receive flooring and verify that condition is smooth and free from conditions that will adversely affect execution, permanence, or quality of work.
    - a. Remove all projections, all debris detrimental to flooring system, and dirt, oil contaminates, grease, and surface coatings affecting bond.
  - 2. Notify Architect in writing prior to commencing work of any conditions deemed unsatisfactory for the installation; installation of flooring materials is understood as acceptance of the substrate as satisfactory.
  - 3. Concrete: The General Contractor shall be responsible for hiring an independent testing service to test for moisture content and moisture vapor emission rate; install no flooring over concrete until the concrete has been cured and is sufficiently dry to achieve permanence with

flooring as determined by material manufacturer's recommended bond and moisture tests.

- a. Effectively remove concrete laitance by steel shot blasting or other method approved by flooring manufacturer to achieve minimum surface profile CSP-3.
- b. Concrete slab shall have an efficient puncture-resistant moisture vapor barrier 10 mils thick minimum directly under the concrete slab (for slab on grade). Do not use vapor barrier manufactured with recycled material. Testing must be done to verify that the moisture vapor emission rate of the slab does not exceed that as recommended by the manufacturer at time of installation of the flooring or at any future date. Moisture vapor emission and moisture content testing must conform with the requirements of ASTM F-1869-98 (Calcium Chloride Test) and ASTM F-2170-02 (Relative Humidity Probe Test). If test results show excessive levels of moisture content or vapor emission rate, apply manufacturer's recommended moisture vapor emission control material.
- c. Treat cracks in concrete using manufacturer's recommended practice. Rout out crack and fill with Acrydur 112 MMA resin.

### **3.02 INSTALLATION**

- A. Install all floor materials in strict conformance with manufacturer's instructions.
- B. Route out all cracks (larger than 1/16" width) and fill with Acrydur 112 MMA resin.
- C. Prime entire surface with Acrydur 112 MMA at recommended coverage rate and lightly broadcast 20 mesh sand or colored quartz. Reapply primer if completely absorbed into the concrete. Primer layer must be resin rich and fully cured hard before continuing with next step. If using moisture vapor control system, fill cracks with moisture vapor control resin and apply system prior to installation of MMA primer.
- D. Apply Acrydur 418 MMA slurry/quartz aggregate broadcast to achieve a minimum thickness of 1/8 inch. Allow to cure hard.
- E. Apply clear Acrydur 526 MMA grout coat and top coat(s) as necessary at recommended coverage rate(s) to provide a uniform, dense surface.
- F. Match finished work to approved samples, uniform in thickness, sheen, color, pattern and texture, and free from defects detrimental to appearance.
- G. Apply temporary protection if needed to protect against other construction trades traffic. The General Contractor shall protect the finished floor from the time that the sub-contractor completes the work.
  1. Cover flooring with kraft paper. Do not apply tape to surface of flooring.
  2. Cover kraft paper with 1/4 inch (6 mm) thick hardboard, plywood or particle board where area is exposed to foot traffic or vehicle traffic pattern, or where rolling/fixing scaffolding and overhead work occurs.

- H. Integral Cove Base: Where scheduled, provide integral cove base formed from flooring over tile backerboard as specified under 09250 - Gypsum Drywall. Optional: provide cove trim strip at top of base as recommended by flooring manufacturer and trowel material up wall to form smooth, integral transition and base 4-6 inches high unless otherwise indicated or scheduled.

**END OF SECTION 096700**