**096700 – Elastomeric Fluid-Applied Flooring**

(Master Format 1995: Section 09670)

#### Key Lastic DE – Exterior Use

#### 90-100 Mils Thickness

# PART 1 GENERAL

## 1.01 SUMMARY

### **A. Work Specified in this Section:**

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, and curing; 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.

Concrete sub-floor to be level (maximum variation not to exceed 1/4 inch in 10 feet) and to have a light steel troweled finish. No curing agents or other additives which could prevent bonding should be used.

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:

ASTM-4060 CS-17 Wheel - Abasion Resistance of Organic Coatings by the Taber Abraser.

ASTM-D-412 Test for Tensile Strength of Plastics

ASTM-D-412 Test for Elongation in Tension of Plastics

ASTM-D-624 Test for Tear Resistance

ASTM C-884 Test Method for Thermal Compatibility Between Concrete and an Epoxy Resin Overlay.

ASTM D-570 Water Absorption of Plastics.

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

### MIL D-3 134 F (Impact Resistance) Section 4.7.3.

### MIL D-3 234 F (Resistance to Elevated Temperature) Section 4.7.5.

### C. ACI 301 Specifications for Structural Concrete for Buildings (most recent edition). Committee in Concrete 503, Bond Strength to Concrete.

## 1.03 DEFINITIONS

### A. Elastomeric waterproofing resin surfacing specified under this section is referenced on the drawings as [ \_\_\_\_ ].

## 1.04 SYSTEM DESCRIPTION

### A. Provide floor system and base where scheduled on drawings and the following related area:

1. Adjacent closets and alcoves

2. Under permanently built in casework and cabinetwork equipment.

3. Base required; Intersections of flooring at permanent vertical surfaces;

a. Columns

b. Pilaster

c. Walls; except cabinet toe spaces.

4. System shall be 90-100 mil Key Lastic DE, fluid applied elastomeric decorative broadcast system. The waterproof, two component elastomeric urethane basecoat will allow for minor horizontal movement and deflection. The surface finish shall be a two component polyaspartic to accommodate the required degree of skid resistance, appearance, and chemical resistance.

## 1.05 SUBMITTALS

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

### B. Certification: 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. 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. Mock-up: Prior to starting application of flooring, provide full scale transportable or installed mock-up to establish acceptable quality, durability, and appearance. Mock-up area must not be less than 50 square feet installed on the floor or 4 square feet if transportable, or as approved by project engineer.

1. Acceptable mock-up to be standard of quality for remaining work.

2. Accepted work may remain in place. Unacceptable work to be removed and replaced or refinished until acceptable.

### G. Qualifications:

Installer: Must be acceptable to Architect and Manufacturer.

## 1.07 PROJECT CONDITIONS

### A. Maintain the ambient room and the floor temperatures at 60 degrees Fahrenheit, or above, for a period extending from 72 hours before, during and after floor installation. 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. 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, discoloration, 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.

Warranty Period: One (1) Year.

# PART 2 PRODUCTS

## 2.01 MANUFACTURERS

A. Specifications and quality of design standard (basis of design) based on Key Resin Company: Key Lastic DE.

Key Resin Company: 888-943-4532, [www.keyresin.com](http://www.keyresin.com)

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: Two component penetrating damp-proof epoxy, Key 502.

### C. Aggregates:

1. Blended colored quartz sand for base, 30-40 mesh.

### D. Membrane/Matrix: Key 400 Urethane Elastomer for basecoat membrane and for aggregate reinforced membrane.

E. Topcoat(s): Clear two component aliphatic polyaspartic, Key 470 or Key 471.

## 2.03 MIXING

### A. Apply Key Lastic DE, according to manufacturer’s instructions.

### B. Provide slip-resistant, cleanable textured finish. Samples to be approved by Owner and Architect.

### C. Provide 4 inch Integral coved base, typically.

## 2.04 FINISHES

### A. Color as selected by Architect from the manufacturer's standard colors.

# 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.

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: Test for moisture content; install no flooring over concrete until the slabs have been cured and are sufficiently dry to achieve permanence with coating as determined by material manufacturer's recommended bond and moisture tests.

a. Effectively remove concrete laitance by steel shot blasting or method approved by flooring manufacturer and achieve minimum CSP-3 surface profile.

b. Concrete slab shall have an efficient puncture-resistant reinforced 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 and moisture content 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-1869-11 (Calcium Chloride Test) and ASTM F-2170-11 (Relative Humidity Probe Test). If any test result shows excessive level of moisture content or vapor emission rate, apply manufacturer’s recommended moisture vapor emission control material over the entire area based upon the highest reading.

c. Treat cracks and non-expansion joints in concrete using manufacturer's recommended practice. Rout out crack/joint and fill with epoxy; reinforce with fiberglass cloth in accordance with manufacturer's recommendation to reduce cracking through flooring system.

## 3.02 INSTALLATION

### A. Install all floor materials in strict conformance with manufacturer's instructions.

### B. Prime entire surface with recommended primer.

### C. Elastomeric membrane (urethane elastomer): Install in single or multiple coats to a minimum total dry film thickness of 32 mils. Allow to cure.

### D. Apply urethane elastomer at minimum dry film thickness of 20 mils and broadcast aggregate to excess to achieve a minimum total system thickness of 90-100 mils. Allow the floor to cure overnight. Sweep excess sand and vacuum, a light sanding or rubbing with a stone will aid in achieving a uniform "sanded" surface.

### E. Apply polyaspartic topcoat(s) to provide a uniform, dense surface, as needed to achieve desired finish texture.

### 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 until floor is fully cured.

### H. Integral Cove Base: Where scheduled, provide integral cove base formed from flooring over tile backerboard as specified under 09250 - Gypsum Drywall. Provide cove filler strips and 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

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