



DIVISION 3 - CONCRETE
Section 03730 – Concrete Rehabilitation

Part 1 – General

1.01 Summary

- A. This specification describes the leveling of interior and/or exterior, horizontal, vertical or overhead surfaces with an epoxy-modified, cementitious resurfacing mortar.

1.02 Quality Assurance

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.03 Delivery, Storage, and Handling

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.04 Job Conditions

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 46°F (7°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.05 Submittals

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.06 Warranty

- A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.

Part 2 - Products

2.01 Manufacturer

- A. **Sikagard 75 EpoCem**, as manufactured by Sika Corporation, is considered to conform to the requirements of this specification.

2.02 Materials

- A. Epoxy-modified cementitious mortar
 1. Component A shall be a liquid, water-based epoxy resin emulsion.
 2. Component B shall be a liquid, water-based aliphatic, polyamine.
 3. Component C shall be a blend of selected cements, specially graded aggregates and admixtures to control workability and setting time.
 4. The epoxy-modified cementitious mortar must be placed at a thickness of 80 mils. (2mm.).

2.03 Performance Criteria

Typical technical data (material and curing conditions at 73°F, 50% R.H.)

- A. Typical properties of the mixed epoxy-modified cementitious mortar
 1. Pot life: A+B+C: Approximately 35 minutes
 2. Initial set: Approx. 5 hours
 3. Color: Gray
- B. Typical properties of the cured, epoxy-modified cementitious mortar
 1. Compressive Strength (ASTM C579, B)
 - a. 1 day 2,000 psi
 - b. 7 days 6,000 psi
 - c. 28 days 7,000 psi
 2. Flexural Strength (ASTM C348) at 28 days: 1,500 psi
 3. Coefficient of Thermal Expansion (ASTM C531): 5.5×10^{-6} in/in/°F
 4. Abrasion Resistance (ASTM D4060) at 28 days: 0.3 Wear Index

Part 3 – Execution

3.01 Surface Preparation

- A. Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare the concrete substrate to obtain a surface profile of +/- 1/16" (CSP 4 per ICRI guideline 03732) an open- pore and textured profile.
- B. Where reinforcing steel with active corrosion is encountered, sandblast the steel to a white metal finish to remove all contaminants and rust. Where corrosion has occurred due to the presence of chlorides, the steel shall be high pressure washed after mechanical cleaning. Prime steel with 2 coats of Sika Armatec 110 EpoCem. (See Spec Component SC-201-0699)

3.02 Mixing and Application

- A. Pre-mix component A and component B by shaking well in their respective containers.
- B. Empty entire contents of component A and component B into a clear dry 6 gallon mixing pail. Mix thoroughly for 30 seconds, using a Sika paddle on a low speed (400-600 rpm) drill.
- C. Slowly add the entire contents of component C while continuing to mix for 3 minutes until blend is uniform and free of lumps.
- D. Placement Procedure: At the time of application, surfaces shall be saturated surface dry (SSD) with no standing water. Mortar must be forced into the substrate filling all pores and voids. Sikagard 75 EpoCem can be applied by spatula, trowel or the low pressure wet spray method. A lightly moistened rubber sponge float or mason brush may be used as required to provide a fine surface texture.
- E. Adhere to all procedures, limitations and cautions printed in the manufacturer's current literature.

3.03 Cleaning

- A. The uncured epoxy-modified mortar can be cleaned from tools with water. The cured epoxy-modified mortar can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spill overs onto adjacent areas.

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