

SECTION 037040
EPOXY COMPOUNDS

1. DESCRIPTION

This specification shall govern all work necessary to provide and apply epoxy compounds.

2. MATERIALS

2.1 Epoxy Bonding Compound for bonding new concrete to hardened concrete or other structural material: Epoxy Bonding Compound shall be a two component, 100% solids, moisture insensitive system. Epoxy shall be "FX-752 Bonding Agent" as manufactured by Fox Industries Inc. of Baltimore, Maryland or "Sikadur 32 Hi-Mod" as manufactured by Sika Chemical Corporation of Lyndhurst, New Jersey or approved equal.

2.2 Epoxy Grout for Epoxy patch on non-horizontal surfaces to concrete: Epoxy Compound shall be a low-modulus, high viscosity, moisture insensitive system. Epoxy shall be SikaTop-123 Plus as manufactured by Sika Chemical Corporation or approved equal.

3. CONSTRUCTION METHODS

3.1 Bond new concrete to existing concrete:

- a) Surface Preparation: The existing concrete or structural surface to which the new concrete is to be bonded shall be cleaned. The existing surface shall be made free from dust, laitance, grease, curing compounds, waxes and all foreign material. Cleaning shall be done by sandblasting, mechanical abrasion, or (by washing only if authorized by the Engineer). During application of bonding compound, surface may be dry, moist, or wet, but surface shall be free of standing water.
- b) Proportioning and Mixing: The epoxy shall be proportioned and mixed in strict accordance with the manufacturer's instructions. The epoxy shall be used in a neat condition (without aggregate filler).
- c) Application of Epoxy: The epoxy bonding compound shall be applied to the prepared surface with the minimum allowable coverages as follows:

Concrete (float finished, cleaned by washing) 75 SF/gal

Concrete (rough finish, cleaned by sandblast or mechanical abrasion) 50 SF/gal

Other surfaces as specified on the drawings

- d) Concrete Overlay: The concrete overlay shall be in accordance with the drawings or 030020 "Portland Cement Concrete." The concrete overlay shall be applied over the epoxy within a

period of time which SHALL NOT EXCEED 60% of the tack free time of the epoxy. It is important for the Contractor to note that these times vary with the temperature and pot time. The following allowable times (60% of tack free time, where the tack free time is the period of time from initial mixing of the two components until the thin film of epoxy hardens) are provided below. The allowable times must be determined from the tack free times which are provided by the manufacturer. The following allowable times are averages and provided only as an aid to the Contractor:

Temperature	Allowable Elapsed Time from Mixing Epoxy Until Placing Concrete Overlay
90°F	40 min.
80°F	1 hr.
70°F	2 hrs.
60°F	3 hrs.

If the allowable period of time is allowed to elapse before concrete overlay can be placed, another layer of epoxy shall be applied prior to placement of the concrete.

3.2 Epoxy Grout for patch to non-horizontal surfaces to concrete:

- a) Surface Preparation: The surface shall be prepared as described in 3.1.
- b) Proportioning and Mixing: The epoxy shall be proportioned and mixed in strict accordance with the manufacturer instruction. The epoxy may be mixed with dry masonry sand. Sand shall conform to ASTM C-144 with 100% passing a No. 8 sieve and not more than 15% to 35% passing a No. 50 mesh sieve. The amount of sand filler shall not exceed 3/4 to 1 (loose sand to epoxy by volume).
- c) Application: Epoxy shall be applied in strict accordance with manufacturer instructions. Area adjacent to work shall be cleaned free of epoxy spills as to provide a neat appearance before work will be accepted.

3.3 General Precaution: The Contractor is advised to become familiar with type of epoxy, method of application, and its basic limitations prior to using the epoxy.

4. MEASUREMENT AND PAYMENT

Unless indicated otherwise in the Bid Form, Epoxy Compounds shall be considered subsidiary to the bid item for the applicable feature.