

Section 95 Epoxy

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Section 95 Epoxy

4-9501 General

Epoxies specified under Section 95, "Epoxy," of the *Standard Specifications* are two-component adhesives used for a number of applications, including the following:

- As a binder to produce high strength epoxy concrete and epoxy mortar
- Pressure grouting cracks in concrete
- Bonding freshly mixed concrete to hardened concrete
- Bonding pavement markers to pavement
- Sealing inductive loops and leads in hot mix asphalt and concrete
- Pressure injection grouting of concrete pavement

Bridge Construction Memo 135-1.0, "Epoxy Adhesives," of *Bridge Construction Records and Procedures* manual, Vol. 2, contains additional information on epoxy selection, mixing, and placement.

4-9502 Before Work Begins

Verify that Form CEM-3101, "Notice of Materials to Be Used," includes epoxy. Refer to Section 6-202, "Responsibilities for Acceptance of Manufactured or Fabricated Materials and Products," of this manual for additional information.

4-9503 During the Course of Work

During the work, take the following steps:

- Determine that the epoxy used for application type is the material specified, and obtain necessary certificates of compliance.
- Make sure the epoxy is packaged and labeled as the specifications require for its intended use.
- Check that epoxy components are being stored at temperatures above 35 degrees Fahrenheit.
- Check that surfaces to receive epoxy are sound and have been properly prepared and cleaned of harmful materials, including rust, paint, grease, and laitance. Inadequate surface preparation or cleaning is often later identified as the reason for poor bonding performance of epoxy when problems occur.
- Verify that the epoxy is mixed and applied under the manufacturer's instructions and specification requirements. If epoxy components show evidence of crystallization, permanent increase in viscosity, noncorrectible settlement of pigments, or are older than the manufacturer's recommended expiration date, the material cannot be used. Check that each individual component is being thoroughly mixed before mixing with other components. During mixing pay

particular attention to the proportions being mixed and the thoroughness of the blending. Partial kits are not allowed, because it is difficult to assure proper proportioning will occur. Addition of solvents is not allowed as their inclusion will affect epoxy performance. Monitor the time from mixing to placement and epoxy consistency, ensuring the epoxy does not exceed its working life for the temperature at which it is placed.

- Where placing epoxy concrete or mortar, the receiving surface is to be primed with epoxy immediately before placement operations.
- Where bonding freshly-mixed concrete to hardened concrete, epoxy is to be applied to the blast-cleaned surface using a brush or roller. Make sure the epoxy is applied without skips or holidays and the freshly-mixed concrete is placed while the epoxy is tacky. In the event the epoxy has set in advance of concrete placement, verify that a new coat of epoxy is applied.

4-9504 Payment

Payment for epoxy is included in the contract unit price for items of work in which epoxy is specified.