

SECTION 03935

EPOXY INJECTION AND SEALING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Repair concrete cracks by injecting epoxy and sealing the concrete surfaces.

1.2 PAYMENT PROCEDURES

- A. These items are included in other items of work.

1.3 ACCEPTANCE

- A. Penetration of 95 percent of all cracks from 1/64 inch to 1/4 inch wide is required.

1.4 DELIVERY

- A. Deliver the packages materials in unopened packages with labels clearly indicating the following:
 1. Name of Manufacturer
 2. Manufacturer's product name or product number
 3. Manufacturer's lot number
 4. Mix ratio
 5. SPI Hazardous Material Rating and appropriate warnings for handling

PART 2 PRODUCTS

2.1 MATERIALS

- A. Select from the Performance Data Products Listing (PDPL) maintained by the UDOT Research Division.
 1. Epoxy Injection Material:
 - a. Use only products for which vertical crack injection is recommended by the manufacturer.

- b. Use appropriate cap seal material recommended by the particular epoxy manufacturer.
2. Surface Sealing Material: Penetrating sealer.

2.2 EQUIPMENT

- A. Minimum of two pumps with the following required characteristics:
 1. Electric-powered and portable.
 2. Positive displacement.
 3. Positive-ratio control of exact proportions of the two components at the nozzle.
 4. In-line metering and mixing.
- B. Injection equipment required characteristics:
 1. Automatic pressure control capable of discharging the mixed adhesive at any pre-set pressure up to 200 psi \pm 0.5 psi.
 2. Equipped with a manual pressure control override.
- C. Capable of maintaining the volume ratio of the injection material prescribed by the manufacturer within a tolerance of \pm 5 percent by volume at any discharge pressure up to 200 psi.
- D. With sensors on both the component A and B reservoirs that automatically stop the machine when only one component is being pumped to the mixing head.

PART 3 EXECUTION

3.1 INSTALLERS

- A. Injection equipment operators must have a minimum of two years experience in the methods and materials of the selected system for application of epoxy injection.
- B. Injection equipment operators must know the technical aspects of:
 1. Correct material selection and use.
 2. Equipment operation, maintenance, and troubleshooting.

3.2 PREPARATION

- A. Sandblast clean the concrete surfaces.
- B. Seal cracks.

- C. Provide entry ports for the epoxy injection. Space ports a maximum of 6 inches.

3.3 EPOXY INJECTION

- A. Proceed from lower to higher ports.
- B. When epoxy appears at a higher port, plug the port being injected and move to a higher port.

3.4 EPOXY SEALING

- A. Grind flush all ports extending above the concrete surfaces.
- B. Apply the sealant at the minimum application rate of 0.09 gal/yd².
- C. Cover the entire length of the crack with epoxy sealant for a minimum of 2 ft on either side of the crack.
- D. Mask the member so a straight vertical line is produced at the cutoff point.
- E. Apply a second coat at the same application rate as soon as the first coat is dry to the touch. Do not exceed the following times between coats:

Hours	Temperature (Degrees F)
72	66
36	77
24	90

END OF SECTION