

SECTION 03922

DELAMINATION REPAIR

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Repair delaminated concrete areas.

1.2 PAYMENT PROCEDURES

- A. This item is included in other items of work.

1.3 RELATED SECTIONS

- A. Section 03055: Portland Cement Concrete.
- B. Section 03310: Structural Concrete.

1.4 REFERENCES

- A. AASHTO M 235: Epoxy Resin Adhesives.

1.5 ACCEPTANCE

- A. Rebuild the areas to original shape, $\pm 1/8$ inch.
- B. Remove and repair if the patching fails to bond. Department does not allow additional compensation for continual repair.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Repair Concrete:
 - 1. Portland Cement Concrete: Class AA (AE). Refer to Section 03055.
 - 2. Cement: Type II. Refer to Section 03055.
 - 3. Aggregate: 3/4 inch maximum.

- B. Patching Concrete:
 - 1. Select from the Performance Data Products Listing (PDPL) maintained by the UDOT Research Division.
 - 2. Only use products for which the manufacturer recommends vertical application.

- C. Substrate Coating: Use a bonding agent or primer recommended by the particular patching concrete manufacturer.

- D. Epoxy Resin Adhesive: Type II. AASHTO M 235.
 - 1. Use a class rating consistent with the application temperature.
 - 2. Select from the Performance Data Products Listing (PDPL) maintained by the UDOT Research Division.

- E. Surface Sealing Material (Penetrating Type): Select from the Accepted Products Listing (APL) maintained by the UDOT Research Division.

2.2 MIXER

- A. Use an approved type of small mixer to batch out the repair concrete when specifically approved by the Engineer.

PART 3 EXECUTION

3.1 PREPARATION

- A. Locate the repair areas: Sound the items requiring this work and mark the limits of delaminated areas for repair work in the presence of the Engineer.

- B. Remove concrete:
 - 1. Remove all loose materials by dry sweeping.
 - 2. Clean by blowing with compressed air at 90 psi.

3. Make ½ inch deep saw cuts in the sound concrete surrounding the damaged areas.
 4. Remove all damaged and shattered concrete.
- C. Cleaning:
1. Remove all loose materials by dry sweeping.
 2. Clean by blowing with compressed air at 90 psi.
 3. Sandblast clean all exposed reinforcing steel and concrete surfaces before placing new concrete.

3.2 INSTALLATION

- A. Form Work
1. Use forms and braces to place new concrete to the original dimensions.
 2. Vibration is required in the forms when the area between forms and existing concrete surface will allow use of vibrators.
- B. Use one type of repair concrete.
- C. Placing concrete when thickness to be placed is less than or equal to 3 inches:
1. Use patching concrete.
 2. Coat the cleaned concrete using the manufacturer's recommended primer.
 3. Place patching concrete in layers not exceeding the manufacturer's recommended application thickness per layer.
 4. Apply the surface sealer recommended by the manufacturer.
 5. Consult the manufacturer's recommendations for finishing.
- D. Placing concrete when thickness to be placed is greater than 3 inches:
1. Apply an epoxy-resin adhesive to the cleaned concrete surface of the repair area before placing the new concrete.
 2. Place the concrete and allow it to cure following the requirements of Section 03310.
 3. After the concrete has properly cured, sandblast the finished concrete surfaces and coat with a non-penetrating type epoxy sealer. Follow the manufacturer's procedure.
- E. Finished surfaces: Provide the look of one color.

END OF SECTION