

SECTION 02754

DOWEL BAR RETROFIT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Procedures and materials for installing coated dowel bars across existing transverse joints and cracks.

1.2 RELATED SECTIONS

- A. Section 03211: Reinforcing Steel and Welded Wire

1.3 REFERENCES

- A. AASHTO M 148: Liquid Membrane-Forming Compounds for Curing Concrete

PART 2 PRODUCTS

2.1 MATERIALS

- A. Dowel Bars: 1 1/2 inch x 18 inch, smooth steel rod, following Section 03211.
- B. Bond Breaking Compound: Use a bond-breaking compound approved by the Engineer.
- C. Chair Devices: Coat according to Section 03211, or make of non-metallic materials, the devices used to support and hold the dowel bar in place. Provide a minimum clearance of 1/2 inch between the bottom of the bar and the surface upon which the chair is placed.
- D. End Caps: Place on dowels, tight fitting end caps made of non-metallic materials that allows for 1/4-inch movement of the bar at each end. Submit a sample of the end caps to the Engineer for approval prior to use on the project.

- E. Caulking Filler: Use a standard commercial silicone sealer specified for use with concrete surfaces. Submit a sample of the caulking filler to the Engineer for approval prior to use on the project.
- F. Patching Material: Select from the UDOT Performance Data Products Listing (PDPL) - Portland Cement Concrete Repair Materials - Horizontal, or an approved equal, to replace the concrete pavement that was removed to install the dowel bars. Use mix with ¼ inch nominal maximum aggregate size. Submit a sample of the material to the Engineer for approval prior to use on the project.
- G. Joint/Crack Preservation Material: Use a rigid removable material capable of maintaining the joint or crack.

2.2 EQUIPMENT

- A. Jackhammers: To prevent spalling, use jackhammer less than the nominal 30 pound class.

PART 3 EXECUTION

3.1 CONSTRUCTION

- A. Saw cut the pavement as required per PV Series Standard Drawings.
- B. Jackhammer and sand blast to clean all exposed surfaces and cracks, removing slurry and loose concrete.
- C. All residues from the saw, jackhammer and sand blasting process become property and responsibility of the contractor.
- D. Fill the contraction joint as per PV Series Standard Drawings.
- E. Pre-coat the dowel bars with a bond-breaking compound.
- F. Place the foam core board at the middle of the dowel bar to maintain the transverse joint or crack. Fit the foam core board tightly around the dowel bar and to the bottom and edges of the slot. Maintain the foam core board in a vertical position and tight to all edges during placement of the patching material as per PV Series Standard Drawings.
- G. Repair or replace at no cost to the Department any dowel bars damaged.

- H. Thoroughly moisten all surfaces of the slot immediately prior to filling with patching material. Prevent standing water in the slot. Remove all excess water with compressed air.
- I. Fill the slot with an approved patching material. Consolidate the material in the slot and around the dowel bar with an appropriate size vibrator. Finish patching materials to existing surfaces. Place and cure the patching material according to manufacturer's specifications. Cure using ASHTO M 148, Type 1-D, Class A.
- J. Replace any individual dowel bar retrofit not functioning or damaged at no cost to the Department.
- K. Remove joint preservation material to a depth of two inches and reseal.

END OF SECTION