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# Special Specification 3040

## Slot-Stitching Longitudinal Joints in Concrete Pavement

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### 1. DESCRIPTION

Install tie bars across longitudinal cracks or joints in concrete pavement in accordance with the details shown on the plans and the requirements of this item.

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### 2. MATERIALS

Furnish the following materials, unless otherwise shown on the plans or directed by the Engineer:

- 2.1. **Concrete Repair Material.** Furnish repair materials meeting the requirements of DMS 4655 "Concrete Repair Materials" Type A. Follow the manufacturer's recommendations when using these materials. When necessary, use aggregates having a maximum size passing the 3/8 in. sieve to extend these repair materials.
- 2.2. **Reinforcing Steel.** Provide reinforcing steel in accordance with Section 360.2.B, "Reinforcing Steel."
- 2.3. **Membrane Curing Compound.** Provide membrane curing compounds that conform to the requirements of DMS-4650, "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants", Type 2, Class A.

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### 3. CONSTRUCTION

Demonstrate slot-stitching work for approval of all the equipment and procedures. Provide tie bars at locations and spacing as detailed on the plans.

- 3.1. **Slot Formation.** Provide slots using multiple saw cuts made with a diamond impregnated saw blade to a minimum depth of 7 1/2 in. This depth will provide the needed clearance under the tie bars for the support devices and for encasing the tie bars in the repair material.

The slot is 2 1/2 in. minimum and at most 4 in. wide. Provide tie bar support chairs that match the width of the slot.

Provide enough length of the cut to allow the tie bar to be placed at the mid-depth of the slab without touching the ends of the slot.

Use lightweight jackhammers less than 30 lb. or hand tools to remove the "fins" formed by sawing.

Do not spall or fracture concrete adjacent to the slots. Repair damages to concrete pavement caused by Contractor's operation without any additional compensation. Repair in accordance with Item 361, "Full-Depth Repair of Concrete Pavement" or Item 720, "Repair of Spalling in Concrete Pavement" if spalls are 0.25 to 3 in. in depth, or as approved.

- 3.2. **Tie Bar Placement.** Rinse the slot with potable water, sand blasted, and blown clean and dry with high pressure air to remove sand, water and dust.

Place tie bars at locations and spacing as detailed in the plans. Place the tie bars on support chairs so that the tie bars rest horizontal at the mid-depth of the slab.

- 3.3. **Repair Material Placement.** Do not place repair material when the air temperature is below 65°F. Use a vibrator head at most 1 in. in diameter to consolidate the concrete repair material. Do not dislodge or move the tie bar out of position, but the repair material must fill the space under the bar.

Finish the repair material level with the existing slab surfaces.

Cure the repair surface in accordance with manufacturer's curing procedure.

Use insulation blankets to facilitate curing and the strength gain of repair areas if desired. Provide insulating blankets with a minimum thermal resistance (R) rating of 0.5 hour-square foot °F/BTU and in good condition.

Make and cure concrete strength test specimens as directed.

- 3.4. **Opening to Traffic.** The pavement may be opened to traffic after the concrete has obtained a minimum average flexural strength of 255 psi or a minimum compressive strength of 1800 psi. Determine the strength in accordance with either Tex-448-A or Tex-418-A by using concrete specimens cured at the job site under the same conditions as the pavement. Opening the pavement does not relieve the Contractor from his responsibility for the work in accordance with Item 7, "Legal Relations and Responsibilities."

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#### 4. MEASUREMENT

This Item will be measured as each completed and accepted tie bar complete in place.

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#### 5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Slot-Stitching Longitudinal Joints in Concrete Pavement". This price is full compensation for furnishing all materials, tools, labor, equipment and incidentals. No payment will be made for extra work required to repair damage to the adjacent pavement that occurred during sawing.