

**SPECIAL SPECIFICATION****3013****Cross-Stitching Longitudinal Joints in Concrete Pavement**

1. **Description.** Drill holes and anchor deformed tie bar reinforcement diagonally across longitudinal cracks or joints in concrete pavement in accordance with the details shown on the plans and the requirements of this Item.
2. **Materials.** Unless otherwise shown on the plans or directed by the Engineer, use materials that meet the requirements of the pertinent items as follows:
  - A. Item 440, "Reinforcing Steel"
  - B. DMS-6100, "Epoxy and Adhesives," Type VIII (Grout) Class B
3. **Equipment.** Provide tools and equipment necessary for proper execution of the work.
  - A. Drill. Use a maximum 40 lb. hydraulic drill with tungsten carbide bits.
  - B. Air Compressor. Provide compressor capable of delivering air at 120 cu. ft. per minute and with a minimum 90 psi nozzle pressure.
4. **Construction.** Provide the anchoring material Manufacturer's written recommendations to the Engineer. Demonstrate the cross-stitching work to receive approval of the operation procedure and the use of equipments.
  - A. **Drill Holes.** Use drilling operations that do not damage the surrounding concrete. Drill the end holes in a slab at the offset, depth, and angle as shown on the plans. Ensure that the holes are drilled perpendicular to the longitudinal joint or crack (in plan view) at each location being drilled. Drill adjacent holes in opposite directions across the joint or crack. Ensure that the holes diameters are no more than 3/8 in. larger than tie bar diameter.
  - B. **Clean Holes.** Clean holes with oil-free and moisture-free compressed air and a wire brush to remove all cuttings, dust, and other deleterious material. Check the compressed air stream purity with a clean white cloth. Insert the nozzle to the back of the hole to force out all dust and debris. Alternate use of the wire brush and compressed air as necessary until all loose material has been removed.
  - C. **Insertion of Tie Bar.** Place the anchoring material into the back of the hole using a nozzle or wand of sufficient length. Insert the tie bar such that the anchoring material is evenly distributed around the tie bar and slightly extrudes out the hole. Trowel the anchoring material smooth to the pavement surface.
  - D. **Repairs.** Repair damages to concrete pavement caused by Contractor's operation without any additional compensation. As directed, perform repairs 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. depth.

- 5. Measurement.** This Item will be measured by each completed and accepted cross-stitched tie bar.
- 6. 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 "Cross-Stitching Longitudinal Joints in Concrete Pavement." This price shall be full compensation for furnishing all materials, tools, equipment, labor, and incidentals necessary to complete the work. No payment will be made for extra work required to repair damage to the adjacent pavement that occurred during drilling.