Section 2543. Transverse Joint Repair for HMA Pavements

2543.01 DESCRIPTION.

Mill unstable material from transverse joints of existing HMA pavements as directed by the Engineer, clean the milled trench, fill the milled trench with the specified mixture, and seal the edges of the repair when required.

2543.02 MATERIALS.

A. Unless stated elsewhere in the contract documents, use HMA meting or exceeding Section 2303 requirements for a 300,000 ESAL surface mixture.

B. The mixture size may be 3/4 inch, 1/2 inch, or 3/8 inch (19 mm, 12.5 mm, or 9.5 mm).

C. Use tack coat bitumen meeting the provisions of Article 2303.02, E.

2543.03 CONSTRUCTION.

A. Equipment.

1. Furnish milling equipment capable of removing deteriorated material a minimum of 12 inches (0.3 m) in width in one pass and to the depth specified in the contract documents.

2. Furnish tools or hand tools approved by the Engineer to remove other deteriorated material and clean the joint in the existing pavement.

3. Furnish one of the following to compact the lower lifts:

- Mechanical tampers meeting the requirements of Article 2001.04,
- Trench rollers,
- Vibratory compactors, or
- Weighted vehicle wheels operated in the trench.

B. Transverse Joint Repair.

1. Mill a transverse area not less than 12 inches (0.3 m) wide or more than 24 inches (0.6 m) wide for the entire pavement width at joint repair areas. Additional width may be specified by the contract documents or by the Engineer. The maximum depth of the milled area will also be specified in the contract documents.

2. Remove all loose material and clean the joint using methods approved by the Engineer. The use of hand tools may be required to provide a nearly vertical face of sound material. All removed material becomes the property of the Contractor, unless specified otherwise in the contract documents.

3. Prior to filling the milled area with HMA, lightly tack the vertical faces and the base of the area. Ensure these surfaces are clean and dry to make the tacking operation effective.

4. Place HMA in uniform lifts not to exceed 3 inches (75 mm) in depth.

5. Compact each lift with a minimum of three passes using the compaction equipment specified.

6. Ensure the finish elevation of the compacted material in the milled area is level with, or not more than 1/4 inch (5 mm) above, the surrounding pavement surface.

7. If the transverse joint repair is to be used for the roadway wearing surface, seal the edges of transverse joint repair with a coat of CRS-2 Bitumen. Apply the bitumen material with a V-shaped squeegee tool at a width of 3 inches (75 mm) centered on the joint edge. Blot excess bitumen material with sand.

C. Limitations of Operations.

1. Conduct the work on one lane at a time unless the road is closed to traffic. Conduct all operations to provide a minimum of inconvenience to traffic.

2. Complete all the milling, cleaning, filling and compacting, and sealing of each transverse joint repair in 1 day if the road is not closed to traffic.

3. If unforeseen conditions should result in milled trench sections being left overnight, assign a sufficient number of flaggers to warn and direct traffic from the time construction operations have stopped until they have resumed again. No extra payment will be made for the necessary flaggers.

4. Apply Articles 1107.08, 1107.09, and 1108.03.

2543.04 METHOD OF MEASUREMENT.

A. Measurement for Transverse Joint Repair will be the number of tons (megagrams) placed.

B. Unused quantities will be deducted based on actual scaled weight (mass) or estimates.

2543.05 BASIS OF PAYMENT.

A. Payment for Transverse Joint Repair will be the contract unit price per ton (megagram) for the specified material used.

B. Payment is full compensation for:

- Removal of all deteriorated material from the joint,
- Cleaning,
- Tack coat,
- Asphalt binder,
- HMA production, placement, and compaction in the trench, and

- Sealing the transverse joint repair edges, when required.