

SECTION 02725

CRACK SEALING

PART 1 - Description

The work consists of preparing and sealing random cracks in asphaltic concrete paving with hot applied single component polymeric joint sealant.

PART 2 - Materials

The sealant shall conform to ASTM D6690, Type I, II, and III. The sealant manufacturer shall provide a written certification stating the quantity of sealant and that the sealant conforms to ASTM D6690.

PART 3 – Execution

3.01 Preparation of Cracks.

- A. Cracks less than three-eighths inch (3/8") (9mm) wide. For cracks less than three-eighths inch (3/8") (9mm) width, the crack shall be widened using a router to form a sealant reservoir which is one-half inch (1/2") (12mm) wide and three-quarters to one-inch (3/4" to 1") (20-25mm) deep.
 1. The routed crack shall then be cleaned of dust, dirt, and other loose deleterious materials with oil-free compressed air. Cracks shall be dried with a compressed air heat lance immediately in advance of sealing. The heated air from the heat lance shall have a minimum temperature of 2800°F (1550°C), and a minimum velocity of 2800 feet per second (850m/s). Direct flame driers shall not be used. Pavement shall not be oxidized or burned with the heat lance. The prepared cracks shall be inspected by the Engineer prior to sealing.
- B. Cracks less than one-quarter inch (1/4") (6mm). Cracks less than one-quarter inch wide shall be sealed during the pavement restoration procedure such as an overlay or slurry seal.
- C. Cracks wider than three-eighths inch (3/8") (9mm) wide. Cracks wider than three-eighths inch (3/8") (9mm) in width shall be cleaned for the entire crack depth using sandblasting, brushing, and airblowing techniques as required to provide a crack free from all debris, dust, loose material, and moisture.
 1. The routed crack shall then be cleaned of dust, dirt, and other loose deleterious materials with oil-free compressed air. Gouging or plowing may be required to remove incompressibles deep in the crack. Cracks shall be dried with a compressed air heat lance immediately in advance of sealing. The heated air

from the heat lance shall have a minimum temperature of 2800°F (1550°C), and a minimum velocity of 2800 feet per second (850m/s). Direct flame driers shall not be used. Pavement shall not be oxidized or burned with the heat lance. The prepared cracks shall be inspected by the Engineer prior to sealing. The cleaned crack shall then be filled with sealant from the bottom up to surface level in a manner which does not result in sealant bridging or entrapped air pockets. With deep cracks, settlement of the sealant may occur, thus requiring application of a second layer of sealant material.

- D. Depressed surface cracks. For cracks which have a depressed surface on each side of the crack, the crack shall be overfilled to level with the pavement surface and then "squeeged" to fill in the depressed area. The cracks shall be prepared as in paragraph B above.

3.02 Crack Sealing

A. Conditions

1. Crack sealing shall be done only when the weather conditions are dry, and in accordance with the sealant manufacturer's recommendations. Two copies of the sealant manufacturer's recommendations for preparation, handling, mixing, and application shall be furnished to the Engineer before beginning sealing.

B. Equipment

1. The equipment used for routing cracks shall produce a reservoir with vertical sides and a flat bottom. The pavement adjacent to the reservoir shall not show any signs of damage resulting from the routing operation. If the adjacent pavement is damaged, the Contractor shall alter the equipment and/or the procedure to eliminate the damage to the satisfaction of the Engineer.
2. The machine used to apply the sealant shall continuously maintain the recommended sealant application temperature. If the sealant temperature cannot be maintained while adding additional sealant, two sealing machines shall be used. The sealing machines shall be equipped with a positive-acting device to continuously agitate and mix the sealant during application.

C. Application Of Sealant

1. The sealant shall be applied to the crack from the bottom up. The sealant shall be recessed slightly below the pavement surface. Any excess material shall be smoothed tightly against the pavement surface.
2. The sealant shall not be tracked or pulled out during construction. Sealant damaged by tracking shall be replaced at the Contractor's expense.

END OF SECTION