

ITEM 0104021

ROADWAY SURFACE CRACK SEAL

DESCRIPTION

Work under this item will consist of furnishing equipment, material and labor for thoroughly cleaning joints and cracks in an existing bituminous concrete or Portland cement concrete surface of all dirt, dust, loose joint material, and all deleterious matter with compressed air of sufficient pressure to ensure thorough cleaning. After a sufficient number of joints and cracks have been cleaned so as to ensure a continuous operation, all joints and cracks shall be sealed with an approved crack sealing material as directed by the Engineer, or as shown on the plans and in accordance with these specifications.

REFERENCED ITEMS

None

REQUIRED SUBMITTALS

Material Certificate of Compliance:

Submit 5 copies of material certificate of compliance for crack seal material in accordance with the contract general requirements.

MATERIALS

Crack sealer Type I (SS-S-164) shall be a rubber compound of the hot poured elastic type and shall conform to the requirements of AASHTO M 324-04.

Type II (SS-S-1401-B) shall not be used unless specifically authorized by the Engineer and shall be a compound of the hot poured elastic type composed of mixture of materials compatible with asphalt that will not flow from the joint or be picked up by vehicle tires at an ambient temperature of 125 degrees F.

Paper rope shall be 1/2" in diameter and shall be the only acceptable filler material, unless the substitute filler is a proven equal to the original and approved by the Engineer.

1. **KETTLE**

This unit is to be a combination melter and pressure applicator. It shall be constructed as a double boiler with space between the inner and outer shells filled with oil or other material for heat transfer. The material for

transferring heat will have a flash point of not less than 600°F. Positive temperature control and mechanical agitation will be provided. Direct heating will not be used. The temperature of the sealing compound will be maintained within the range specified by the manufacturer. A thermometer is to be suitably mounted for indicating the temperature of the sealing compound in the melter.

2. **COMPRESSOR**

This unit will have a minimum rated capacity of 90 P.S.I. and shall have sufficient hose to maintain a continuing sealing operation without interruption.

3. **POURING POTS**

Pots must be equipped with mobile carriage and rubber shoe and have a flow control valve which allows all cracks to be filled to refusal so as to eliminate all voids or entrapped air and not leave unnecessary surplus crack sealer on pavement surfaces.

CONSTRUCTION METHODS

All roadway surface cracks of 3/8" to 1" wide shall be cleaned and sealed. This operation will start with the cleaning of the specified cracks with compressed air. Routing may be necessary in some instances. When routing is required, the router shall be the vertical spindle or rotary-type cutter. After routing, the cracks shall be cleaned with compressed air before sealing.

These cracks shall then be filled with paper rope to a level of 1" below the riding surface of the road. Crack seal material will then be applied through a nozzle or hand pouring pot which may project into the crack. The hot seal material shall completely fill the crack such that after cooling, the level of the sealer will not be greater than 1/8" below the pavement surface. Any depression in the seal greater than 3/16" shall be brought up to the specified limit by further addition of hot seal material. Care shall be taken during the sealing operation to ensure that the final appearance will present a neat line.

1. **CONTROL OF CRACK SEAL MATERIAL-TYPE I**

The temperature at which this material is to be applied will be within the range of temperature specified by the manufacturer. The actual temperature of the joint seal material in the melter shall not exceed the manufacturer's specified temperature by more than 15°F. Any material that does exceed this

limit will be wasted at the expense of the contractor. The crack seal material shall be poured as soon as possible after the recommended pouring temperature has been reached. Only as much material as can be poured in a given day shall be melted that day. In the event of circumstances beyond the control of the contractor which prevent him from pouring sealing material already melted, he shall reduce the temperature of the material to between 275°F and 325°F, and maintain that temperature until just prior to the time sealing operations are resumed, provided however, that material which has been melted shall not remain overnight in the melter, or in the applicator(s). At the close of each day's operations, all material remaining in the melter and in the applicators shall be drawn off and stored in containers approved by the inspector. It is at this point that the contractor and the inspector shall agree as to the day's accomplishment. Material so salvaged may be fed back into the melter in a proportion of 25% salvaged material to 75% new material.

2. **CONTROL OF CRACK SEAL MATERIAL - TYPE II**

The temperature at which this material is to be applied will be within the range of temperature specified by the manufacturer. The pouring temperature shall not exceed 450°F (232°C).

The crack seal material shall never be heated at the pouring temperature for more than four hours and should never be reheated. Sealer left in the applicator at the end of the day's work should be removed and discarded. The cost of the discarded material will be the responsibility of the contractor and will not be included in the amount determined for payment.

3. **LIMITATION OF OPERATIONS**

The Contractor shall conduct the work at all times in such a manner and in such a sequence as will insure the least practicable interference with traffic. He shall have due regard to the location of detours and to the provisions for handling traffic.

METHOD OF MEASUREMENT

Cleaning and sealing cracks shall be measured for payment by the actual number of pounds of crack seal material in place as accepted and approved by the Engineer with the daily accomplishment in pounds agreed upon at the close of each work day.

BASIS OF PAYMENT

“ROADWAY SURFACE CRACK SEAL” will be paid for at the contract unit price per pound of crack seal material, complete in place, which price shall include any and all equipment, tools, labor, routing, materials (including paper rope and crack seal material), and incidentals thereto.

<u>PAY ITEM</u>	<u>DESCRIPTION</u>	<u>PAY UNIT</u>
0104021	Roadway Surface Crack Seal	LB