SECTION 32 01 17 61

SEALING CRACKS IN ASPHALT PAVEMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
   1. Requirements for crack routing and sealing of existing pavements

B. Related Sections
   1. Section 01 50 00 – Temporary Facilities and Control
   2. Section 32 12 36 – Seal Coats
   3. Section 32 17 23 – Pavement Markings

1.02 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
   1. Crack Routing and Sealing: Measured by the linear foot of sealant installed as specified. The unit price bid per linear foot shall include the cost of all labor, equipment, and materials necessary to complete the work as specified.

1.03 REFERENCES

A. Minnesota Department of Transportation "Standard Specifications for Construction" 2020 Edition (MnDOT Spec.).
   1. 3725 - Crack Filling

1.04 WEATHER LIMITATIONS

A. Sealant materials may be placed during a period of rising temperatures after the air temperature in the shade and away from artificial heat has reached 40 degrees F and indications are for a continued rise in temperature.

B. During a period of falling temperatures, the placement of sealant material shall be suspended when the air temperature, in the shade and away from artificial heat, reaches 40 degrees F.

C. Sealant shall not be placed when, in the opinion of the Engineer, the weather or roadbed conditions are unfavorable.

D. Routing and sealing will be permitted only during daylight hours between May 1 and October 31.

1.05 ITEMS PRIOR TO WORK

A. A minimum of seven (7) days' notice of work starting shall be given to the Street Division Manager.

B. Necessary sweeping after streets have been sealed will be completed by City forces.

C. Traffic control may need to be inplace for the street sweeping operation

PART 2 PRODUCTS

2.01 SEALANT

A. The Contractor shall provide certification that the sealant meets the requirements of MnDOT standard specification 3723.

B. The crack sealant compound shall be packages in sealed containers.
   1. Each container shall be clearly marked with the name of the manufacturer, the trade name of the sealant, the manufacturer's batch and lot number, the pouring temperature, and the safe heating temperature.

C. A copy of the manufacturer's recommendations pertaining to the heating and application of the joint sealant material shall be submitted to the Engineer prior to the commencement of work.
   1. These recommendations shall be adhered to and followed by the Contractor.

D. The temperature of the sealer in the field application equipment shall never exceed the safe heating temperature recommended by the manufacturer.

E. Any given quantity of material shall not be heated at the pouring temperature for more than six (6) hours and shall never be reheated.

F. Sealing shall not proceed if the temperature of the material has not reached or has fallen below the manufacturer's recommended minimum application temperature.

G. Mixing of different manufacturer's brands or different types of sealant shall be prohibited.

PART 3 EXECUTION

3.01 TRAFFIC CONTROL

A. Traffic control shall be the responsibility of the Contractor.

B. The Contractor will install, maintain and remove all traffic control devices.

C. Traffic control devices
   1. Traffic control devices shall include all channelizing devices, advanced warning signs and flaggers necessary to keep the work area safe for public as well as Contractor's employees.
   2. Traffic control devices should be of such nature that they can be moved easily with the construction process.

D. An agreement on the traffic control configuration shall be reached between the City Street Division Manager and Contractor, prior to any construction work beginning.

E. Work may be suspended if at any point, the Street Division Manager determines that additional traffic control is necessary.

3.02 CONSTRUCTION REQUIREMENTS

A. General
   1. The Engineer shall mark the cracks to be routed, cleaned and sealed. The routing, cleaning and sealing shall extend the full width of the surface, including shoulders where necessary.
   2. The contractor shall conduct his operation so that routing, cleaning and sealing is a continuous operation.

3. Traffic shall not be allowed to kneed together or damage the reservoir once it has been created.
4. Cracks not sealed before traffic is allowed on the surface shall be rerouted at no additional cost to the City.

B. ROUTING:
1. The routing equipment shall be mechanical and power driven, capable of following and cutting the cracks to the required dimensions without deviation from the crack or creating excessive spalling.
2. Equipment designed to "plow" the cracks to dimension will not be permitted.
3. Wet sawing will not be allowed. (3/4 X 3/4 inch routing)

C. CLEANING:
1. The crack and surface area six (6) inches on both sides shall be cleaned of foreign matter and loosened particles with a broom or oil-free compressed air.
2. The crack and surface area six (6) inches on both sides will then be cleaned and dried with a hot compressed air heat lance meeting the following requirements:
    a. Temperature of heated air at exit of orifice minimum of 2,800 degrees F.
    b. Velocity of exiting heated air minimum of 2,800 fps.
3. The application time and final results of the cleaning are subject to the Engineer's approval.

D. SEALING:
1. The sealant shall be placed evenly and slightly recessed of the pavement.
2. If the routing process results in spalled or rough edges the Engineer my require the material to the poured flush and squeegeed to fill in the rough edges.
3. The applicator wands shall be returned to the machine and the joint sealant material recirculated immediately upon completion of each crack.
    a. Pour pots or similar devices shall not be used to apply the sealer.
4. Lanes may be opened to traffic only after the sealer has set sufficiently so it will not pickup under traffic.
    a. In the case where traffic must be allowed on the freshly sealed joints (to exit or enter the highway at interchanges etc.) talc or other powder, not sand, may be applied to the sealer with care to avoid penetration of the powder into the sealer.
5. Sealant material picked up or pulled out during construction shall be replaced at contractor expense.