

## **SECTION 475: HOT-POURED CRACK SEALING**

### **475.1 DESCRIPTION**

This work shall consist of preparing and cleaning cracks and joints in the existing concrete or asphalt pavement roadway surface and sealing these cracks or joints with hot-poured sealant.

### **475.2 MATERIALS**

#### **475.2.1 General**

Hot-poured sealant shall be used in accordance with the general and physical requirements of ASTM D 6690, and shall be a Type II unless otherwise specified in the Contract, City Standard Drawings or by the City Engineer or designee.

The sealant shall be composed of a mixture of materials that will form a resilient and adhesive compound capable of effectively sealing joints and cracks in concrete and asphaltic pavements against the infiltration of moisture and foreign material throughout repeated cycles of expansion and contraction with temperature changes, and that will not, at ambient temperatures, flow from the joint to be picked up by vehicle tires. The material shall be capable of being brought to a uniform pouring consistency suitable for completely filling the joints without inclusion of large air holes or discontinuities and without damage to the material. It shall remain relatively unchanged in application characteristics for at least six (6) hours at the recommended application temperature in the field.

The Contractor shall have the Supplier sample and test the sealant in accordance with ASTM D 6690 and provide certified test results for each lot or batch of sealant supplied prior to incorporation into the Work.

Sealant shall be provided packaged in containers and labeled in accordance with ASTM D 6690. Bulk shipments of sealant must be accompanied by documents that state the following:

1. Manufacturer's name;
2. Trade name of the sealant;
3. Batch or lot number;
4. Pouring temperature; and
5. Safe heating temperature.

Do not mix more than one lot or batch within a bulk shipment of sealant.

### **475.3 CONSTRUCTION REQUIREMENTS**

#### **475.3.1 Temperature and Weather Limitations**

Crack sealant shall be applied when the ambient air temperature is at least 40 °F and rising, and when the temperature of the existing pavement surface is above 32 °F during application unless otherwise specified by the manufacturer. The optimum ambient temperature for application of crack and joint sealant is 60°F. The Contractor should schedule crack and joint sealing operations around this optimum ambient temperature to maximize the filling of cracks and joints during low thermal expansion and contraction periods.

Crack sealant shall not be placed during inclement weather, on wet surfaces, or when the wind conditions prevent satisfactory sealing.

**475.3.2 Equipment**

Router bits shall be provided of at least 1/2-inch diameter that cut to 1-inch deep. Air compressors shall be used and shall provide uncontaminated air at a pressure capable of cleaning approved cracks. Air compressors shall be equipped with traps to prevent oil and moisture from entering the air stream.

The equipment for heating and preparing the sealant mixture shall provide a continuous supply of the prepared mixture and maintain a continuous, uniform and homogeneous mixture during the sealing operation. The equipment shall provide continuous mechanical agitation as necessary to maintain homogeneity.

Application devices shall provide uniform application of the sealant Materials without clogging, or causing other irregularities in distribution. Application devices and equipment shall meet the requirements of the sealant manufacturer.

**475.3.3 Preparation of Cracks**

Cracks shall be routed and cleaned to the satisfaction of the City Engineer or designee.

All open cracks and joints having an average clear opening from 1/8 inch to 1/2-inch shall be routed to provide a minimum sealant reservoir of 1/2- inch wide and to a depth of from 3/4-inch to 1-inch, unless otherwise directed by the City Engineer or designee. Routers shall be centered over the cracks during routing operations.

All cracks and joints with an average clear opening of 1/2-inch to 1-1/2 inch shall be cleaned with high-velocity compressed air to a depth of from 3/4-inch to 1-inch, unless otherwise directed by the City Engineer or designee. Cracks and joints wider than 1-1/2 inch shall be repaired in accordance with the details shown on the plans or as directed by the City Engineer or designee.

Any alligator cracking encountered shall not be crack sealed without prior approval by the City Engineer or designee.

Immediately before placing the sealant, loose particles, dust, and other deleterious materials shall be cleaned from the sealant reservoirs with high-velocity compressed air.

**475.3.4 Application of Sealant**

The application of sealant shall be controlled to confine the sealant within the reservoirs. The sealant shall be applied to the clean, dry-surfaced reservoirs. The reservoirs shall be completely filled from the bottom up and shall be filled without formation of entrapped air or voids to a final cooled depth flush to 1/4-inch below the existing surface of the roadway. Care shall be taken to avoid excess filling of the cracks. Any overfill shall be squeegeed flush with the adjacent surface and shall not exceed 2-inches beyond the crack edges. All overbanding shall be kept to a minimum. Material placed in excess of 2-inches beyond the crack edges shall be at the Contractor's expense and no payment will be made therefore. If the City Engineer or designee determines the method of filling joints and cracks results in an excessive amount of sealant on the pavement surface, the Contractor shall stop filling operations and change the method used to conform to specification requirements. The Contractor shall clean excess sealant material from the pavement surface at no additional cost to the City.

If application devices clog or irregularities in the application occur, operations shall be halted by the Contractor until corrective action is taken to the satisfaction of the City Engineer or designee.

The Contractor shall follow all preparation and placement requirements indicated by the manufacturer.

**475.3.5 Curing and Resumption of Traffic**

Sealant shall be cured in accordance with the manufacturer’s requirements before placing traffic on the pavement surface. Any damage to uncured sealant shall be repaired at the Contractor’s expense.

The pavement surface and all work areas shall be left in a clean condition. All material and debris emanating from the joint and crack sealing operation shall be cleaned and removed from public and private property, including but not limited to sidewalks, driveways, lawns and roadways.

**475.3.6 Submittals**

The Contractor shall provide copies of material haul tickets if used. The Contractor shall provide certificates of compliance for materials used. The certificates of compliance shall clearly indicate that the material conforms to these specifications and ASTM D 6690. The certificates of compliance shall include the contractor’s name, project number (if applicable), project name, NMDOT control number (if applicable), manufacturer’s name, trade name of the sealant, batch or lot number, pouring temperature and safe heating temperature.

The Contractor shall complete and submit daily field reports acceptable to the City Engineer or designee, detailing the quantities and location of material placed on a street by street or site by site basis. The daily field reports shall be submitted within 2 working days of sealant placement.

The Contractor shall submit to the City Engineer or designee, prior to beginning work, a description of the sealant to be used with attached manufacturer’s literature and testing results indicating conformance to this specification. The Contractor shall not begin joint and crack sealing work until the sealant to be used is accepted by the City Engineer or designee in writing.

**475.4 METHOD OF MEASUREMENT -**

Applied sealant shall be measured by the pound of material applied or by the linear foot of cracks sealed as specified in the contract documents or as directed by the City Engineer or designee.

**475.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Pay Unit</b>
<i>Hot-Poured Crack Sealing</i>	Pound
<i>Hot-Poured Crack Sealing</i>	LF