ITEM 412.10010010- CLEANING AND REPAIRING CRACKS IN ASPHALT PAVEMENT USING HOT APPLIED AGGREGATE REINFORCED MASTIC MATERIAL

DESCRIPTION

The intent of this item is to clean and repair cracks in bituminous concrete pavement that have deteriorated beyond the typical scope for countersinking, cleaning, and overband sealing of cracks (cracks > 1½ inch) using an approved aggregate reinforced, hot applied mastic material. The Engineer shall mark all such cracks to be cleaned and repaired.

MATERIALS

Mastic Material. Hot-applied, prepackaged, single component, pourable, aggregate reinforced, polymer modified asphalt mastic. Packaged in the manufacturer's original sealed container legibly marked with the following information:

- Manufacturer’s name.
- Trade name of repair mastic.
- Manufacturer’s batch or lot number.
- Minimum application temperature.
- Maximum (or Safe) heating temperature.

Provide the Engineer with MSDS sheets and manufacturer’s instructions for heating and application of the material, at least 7 days prior to commencing work.

Use an approved mastic material or approved equal as determined by the Director Materials Bureau:

<table>
<thead>
<tr>
<th>Approved Products</th>
<th>Suppliers</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Crafco Mastic One</td>
<td>Crafco, Inc.</td>
<td>Allentown, PA</td>
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<td>Chandler (Phoenix), AZ</td>
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<td>Cheyenne, WY</td>
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<td>Halls, TN</td>
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<td>Northumberland, PA</td>
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<td>Youngstown, OH</td>
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<tr>
<td>Deery Level and Go Repair Mastic</td>
<td>Crafco, Inc.</td>
<td>Allentown, PA</td>
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</table>

Other products must be submitted to the Materials Bureau for evaluation.
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CONSTRUCTION DETAILS

Technical Assistance. If requested by the Engineer, provide a manufacturer’s representative to supply on-site technical assistance at the beginning of the work until the Engineer determines the assistance is no longer required.

General. Furnish all equipment necessary for cleaning and repair of pavement cracks and deteriorated areas. Use equipment meeting the description and/or performance requirements described herein and approved by the Engineer.

Fill in cracks and/or joints which are a minimum of 1.50 inches to maximum 6.0 inches in width and not more than 2.50 inches in depth.

Only apply material to clean, dry surfaces. Prepare cracks and other repair areas for sealing on the same day that they are to be sealed.

Cleaning. Clean the repair areas in accordance with the manufacturer’s instructions and this specification. Use a high pressure air lance or hot air lance to thoroughly clean and dry repair areas of dust, dirt, foreign material, sand and any other extraneous materials immediately prior to sealing. Do not burn, scorch or ignite the adjoining pavement when using a hot air lance. Install suitable traps or devices on the compressed air equipment to prevent moisture and oil from contaminating the repair surfaces. Maintain these devices and see that they are functioning properly. Protect the public from potentially objectionable and/or hazardous airborne debris.

Crack Preparation. The Engineer will mark the cracks to be repaired. All cracks or areas to be patched will receive a final cleaning by hot compressed air from the hot air lance.

Material Melting. Use a melter recommended by the material manufacturer and meeting the requirements of this specification.

Melter Requirements:
• Double boiler filled with a heat-transfer medium between the inner and outer shells. Do not use direct fire heating.
• Capable of maintaining the application temperature.
• Equipped with positive temperature controls, and with mechanical horizontal agitation.
• Equipped with separate thermometers to indicate the temperature of the heat transfer medium and the mastic material in the hopper.

Check the discharge temperature of the mastic with a non-contact infrared thermometer. Discharge the material at a temperature between the manufacturer's recommended pouring and safe heating temperatures indicated on the material packaging.
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Material Application. Repairs are to be done when ambient air and pavement temperature is at or above 40°F and pavement is clean and dry.

Preheat repair area so a slight bleeding of the asphalt occurs. Take caution to prevent overheating and/or oxidizing the asphalt brought to the surface. Install material within 10 minutes of warming the repair area.

Handle, mix, heat, place, and finish the material in accordance with the manufacturer’s instructions and this specification.

Apply material in an overband beyond the edges of the deteriorated area, to structurally sound pavement, no more than 2.0 – 3.0 inches on all sides.

Apply material so that the finished installation is smooth, level and as flush to the pavement surface as possible.

Final Surface Treatment.

For locations where surface friction is a concern and where directed by the Engineer, broadcast a fine, dry aggregate as recommended by the manufacturer, over the repair area immediately after installation. Do not broadcast surface aggregate over areas where pavement markings will be applied later.

A low pressure, light spray of water may be used to accelerate cooling of the material.

Do not allow traffic on the repaired areas until the material has cooled, to prevent tracking. Before opening to traffic, sweep away or collect any excess fine aggregate off the pavement, if any was applied.

Remove and dispose of material applied in excess of the specified thickness over the pavement surface or any material that has not bonded around the repair.

At repair areas, permanent pavement markings, if required, shall be applied a minimum of one week after the repair operation.

METHOD OF MEASUREMENT

This work will be measured as the number of square yard of repair material actually placed.

BASIS OF PAYMENT

The unit price bid shall include all materials, labor, and equipment necessary to satisfactorily complete the work as specified.