

ITEM 601.03 24 - TEXTURED ASPHALT PAVING WITH THERMOPLASTIC INLAY

DESCRIPTION

Furnish and install an inlaid thermoplastic pavement system on hot mix asphalt (HMA) in the locations, and in the color and pattern, shown in the Contract Documents.

MATERIALS

Thermoplastic.

- Have a 2 year shelf life from date of manufacture.
- Contain a mixture of polymeric materials and pigments.
- Resist deterioration when exposed to sunlight, gasoline, oil, salt, water or adverse weather conditions.
- Have a standard thickness of 2.5 mm (\pm 0.25 mm).
- Have a softening point range between 100°C and 120°C when measured by the Ring and Ball method as described in ASTM D 36-09.
- Be Stored in a cool 21°C (\pm 3°C) dry area indoors.
- Be provided as pre-cut panels in sizes to conform to the specified pattern, widths and shapes.
- Packaged in accordance with accepted commercial standards.

Equipment.

A. Infra-Red Heating Equipment: Designed to apply heat to the asphalt surface to make the upper portion of the asphalt surface pliable enough to accept the imprint of the template and allow continuous monitoring of the surface temperature to ensure the asphalt does not overheat and burn.

B. Vibratory Plate Compactor: For pressing the templates into the heated asphalt to create the specified pattern.

C. Templates: Providing the imprint design as detailed on the drawings and specifications.

Quality of Asphalt Pavement. Deficiencies in pre-existing asphalt pavement such as ruts, raveling, cracks, or the like shall be corrected to the satisfaction of the Engineer, prior to installing the in-laid thermoplastic. Surface to be stamped and inlaid must be clean and free of contaminants to the satisfaction of the Engineer, prior to installation.

CONSTRUCTION DETAILS:

The Contractor shall submit to the Engineer for approval, all product data on the proposed system, samples of the system displaying the specified colors, and the information on the equipment used in the installation process.

Install according to manufacturer's recommendations and this specification.

A. Layout and imprint the pattern into the surface of the HMA as per the drawings and/or specifications. Work shall be performed by a manufacturer certified applicator, or a manufacturer's representative must be on site to provide technical assistance during surface preparation, material placement, and during any necessary remedial work.

B. Apply heat to pre-existing asphalt surface using equipment meeting the requirements of this specification.

Direct flame heaters are not allowed to be used for this purpose, except in transition areas and for spot treatment. Do not allow heating operations to cause the pavement temperature to exceed 163°C.

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C. Clean equipment used for the inlaid operation in accordance with Subsection 402-3.12 *Paver and Equipment Cleaning*.

D. Once the asphalt has reached imprinting temperature, place the templates in position and press into the surface using vibratory plate compactors. Imprint to a depth 4.0 mm (\pm 0.25 mm).

E. Place the pre-cut thermoplastic panels in position on completely dry asphalt, within the imprinted area. Re-apply heat to the surface using infrared heaters, slowly raising the surface temperature until the thermoplastic material, in the panels, starts to liquefy and flow. Temperature shall not exceed 163°C. Once the thermoplastic material has liquefied, remove the heat source and allow the surface to cool.

Basis of Approval. All systems shall have completed a successful trial installation of approximately one year at a location approved by the Main Office Materials Bureau. Prior to acceptance, the Manufacturer shall submit to the Department for approval, all product data and MSDS sheets on the proposed system, samples of the system displaying the colors available, and the information on the heating system and any other equipment used in the installation process.

Basis of Acceptance. The thermoplastic pavement system must meet the requirements of this specification and have Manufacturer's certification that it meets the requirements of this specification. Contact Main Office Materials Bureau for currently approved systems.

METHOD OF MEASUREMENT:

This work will be measured by the number of square meters of textured thermoplastic pavement inlaid satisfactorily, measured from the outside edge to outside edge of inlaid thermoplastic.

BASIS OF PAYMENT:

The unit price bid per square meter shall include the cost of furnishing all labor, materials, equipment and tools necessary to satisfactorily complete the inlaid work. The HMA and any related repair work will be paid separately.