

SECTION 02760

TEXTURED ASPHALT PAVING

PART 1 GENERAL

1.1 Summary

- a. Section includes
 - 1. Requirements for the proper installation of textured asphalt pavement using StreetBond HW Surfacing System (High Performance Surfacing System for Wet Climatic Zones).
- b. Related Sections
 - 1. Section 02110 Site Clearing
 - 2. Section 02200 Earthwork
 - 3. Section 02513 Hot Bituminous Paving

1.2 References

- a. American Society for Testing and Materials
 - 1 ASTM D-4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Tester
 - 2 ASTM D-4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
 - 3 ASTM D-2697 Standard Test Method for Volume of Nonvolatile Matter in Clear or Pigmented Coatings

1.3 Submittals

- a. Submit documentary evidence of up to date certification of Level I or Level II training to the Engineer at bid stage. Do not begin installation prior to receiving the Engineer's approval.
- b. Test results showing that surfacing materials has the following properties:
 - 1. Adhesion (PLI) To an Asphalt substrate (ASTM D-4541) Result: Cohesive failure of asphalt prior to adhesive failure.
 - 2. Taber Abrasion H-10(Dry Wear Index) (ASTM D-4060). Maximum of 0.98 grams/1000 cycles after 7 days cure.
 - 3. Solids by Volume (%) (ASTM D-2697). Minimum = 24 +/-2%.

1.4 Definitions

- a. **"Textured Asphalt Pavement"** shall be described as "StreetPrint Pavement Texturing" or "StreetPrint" on the drawings and documents related to the project.
- b. **"Authorized StreetPrint Applicator"** is a contractor licensed by Integrated Paving Concepts Inc., (Tel. 800-688-5652), and shall have a foreman, supervisor or lead hand on site who has successfully completed a StreetPrint Level 1 or Level II Accreditation Training Program.

- c. **“StreetPrint Pavement Texturing”** is defined as a proprietary finishing system, which treats the surface of Hot Mix Asphalt Concrete (HMA) by imprinting fully compacted asphalt pavement with "grid style" or other styles of depressions to replicate, in relief, the concrete grout depressions common to hand-laid brick or cobblestone, or any other design as shown on the drawings or described in the specifications, and coating the imprinted asphalt surface using the StreetBond HW Surfacing System.
- b. **“Imprinting Hot Mix Asphalt”** is defined as pressing flexible templates into hot, *fully-compact***ed**, Hot Mix Asphalt to create the appearance of grout lines or patterns in the asphalt surface.
- c. **“StreetBond HW Surfacing System”** is defined as multiple applications of premium coating material StreetBond SP150E.

PART 2 PRODUCTS

2.1 Materials

- a. **“StreetBond SP150E Coating Material”** refers to a high performance premium coating material consisting of epoxy modified acrylic polymers blended with sand and aggregate, and specially formulated by Integrated Paving Concepts, Inc. (Tel. 800-688-5652), for application on asphalt surfaces, to provide a durable, long lasting color and texture to the asphalt surface.
- b. **“StreetBond Colorant”** is a highly concentrated, high quality, UV stable pigment blend designed to be added to StreetBond SP150E coating system to provide color to the coating. The colors to be used shall be shown on the drawings. The same StreetBond Colorant shall be used in each SP150E coating layer applied to the asphalt surface. One pint of colorant shall be used with one pail of StreetBond coating material. Colors: "Slate" Primary Field, and "Bedrock" for accent.

2.2 Equipment

- a. **Templates** shall be manufactured from flexible, woven wire rope cut and welded into the patterns, as detailed on the drawings, and used for imprinting Hot Mix Asphalt. Templates to be used are "British Cobble" main field, "Soldier Course" accent band.
- b. **Reciprocating Infra-Red Heater** is equipment specifically 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. The heating equipment used shall allow continuous monitoring of the surface temperature to ensure the asphalt does not over heat and burn. Equipment that is specifically excluded from this section and shall not be used for reheating of the asphalt is any form of direct flame heaters.
- c. **Vibratory Plate Compactor** – shall be used for pressing the wire templates into the heated asphalt to create the specified pattern.
- d. **Spray Equipment** – shall be capable applying the coating material to the asphalt surface in a controlled thin film.

PART 3 EXECUTION

3.1 Preparation

- a. **Hot Mix Asphalt Concrete Paving (HMA)** shall conform with the requirements of the MDOT Roadway Specifications Latest Edition, including gradation and compaction requirements. Asphalt thickness and width shall be as per the drawings. The placement of the asphalt shall be carried out with regard for the imprinting process to avoid visible seams. The HMA shall be fully compacted prior to imprinting of the templates.
- a. **Heating and Imprinting of Asphalt and Application of Coating** The Contractor shall follow the latest StreetPrint Application Procedures as issued by Integrated Paving Concepts Inc.
- b. **Surface Preparation Prior to Coating** The asphalt surface shall be free of dirt, debris, oil or anything that will adversely affect the adhesion of the new coating system. All loose material on the asphalt surface shall be removed by mechanical brooming, or blowing clean using a backpack blower or compressed air. Any difficult to remove dirt shall be removed using a Pressure Washer. Prior to applying the coatings, the asphalt surface shall be completely dry.

3.2 Construction

- a. **Layout and Imprinting** Layout and imprinting of the pattern into the surface of the HMA shall be as per the drawings.
- b. **Heating of Asphalt** The upper portion of the asphalt surface shall be heated using reciprocating infra red re-heating equipment to make the upper portion of the asphalt surface pliable enough to accept the imprint of the template. Overheating of the asphalt shall not be permitted. Direct flame heaters shall not be allowed for the purpose of heating the asphalt. Hot air portable heaters may only be used for heating isolated areas. The temperature of the asphalt surface shall be regularly monitored during the reheating process. The asphalt pavement shall be adequately heat soaked (softened) to a depth of at least ½ inch, without burning the asphalt. The asphalt surface temperature shall not exceed 300°F. If during the re-heating process the surface is overheated and begins to emit black smoke, the contractor shall stop work immediately. The damaged surface area shall be removed by milling the upper 1" and replaced by a partial depth patch with the topmost layer matching the existing surface layer mix and binder. Patching and all work associated with the repair effort shall be at no cost to the Owner.
- c. **Surface Imprinting** Templates shall be pressed fully into the heated asphalt surface using vibratory plate compactors.
- d. **Coating Installation** The StreetBond HW Surfacing System shall be installed by applying at least four thin layers of StreetBond SP150E coating material to the asphalt surface. Each application of coating material shall be allowed to dry completely before applying the next layer. The color of the coating system shall be as per the drawings. Each layer of the coating system shall consist of the same color.

The coating application shall be spray applied and broomed to work the material into the asphalt surface. Subsequent applications shall be sprayed and rolled, using a 1" to 1 ½" nap roller or sprayed and broomed. The contractor shall use StreetPrint recommended spray equipment. Total coverage area of combined coating materials shall not be more than 150 square feet per pail of StreetBond SP150E coating.

The Contractor shall apply the StreetBond HW Surfacing System only when the air temperature is at least 50°F and rising, and will not drop below 50°F within 8 hours of application of the coating material. There should be no precipitation expected within 2 hours after applying the final layer of StreetBond SP150E.

3.3 Quality Control

- a. **StreetPrint** All StreetPrint projects shall have on site a foreman, supervisor or lead hand who is registered with Integrated Paving Concepts, Inc., as a Level 1 or Level II Accredited StreetPrint Installer.
- a. **Protection From Traffic** No traffic shall be allowed onto the coated surface until the coating has completely dried and has cured as set out in the manufacturer's instructions.
- b. **Utility Cuts** All utility, traffic loop detector, and other items requiring a cut and installation under the asphalt surface shall be completed prior to installation of stamped patterned asphalt treatment.
- c. **Stamping Depth** Upon completion, the patterned area shall be checked for proper depth of print, by taking random samples. 98% of the stamped area shall have an imprint depth of 1/4 inch. If any sample areas have an imprint depth that is less than 1/4 inch, those areas shall be re-heated and re-stamped prior to applying the coatings.
- d. **Coating Thickness** The total thickness shall be monitored by measuring the volume of material used per unit area. For this project an average coverage area for the combined coating layers shall be 150 square feet coated per 5 gallon pail of StreetBond SP150E material used. The Contractor shall provide proof of material usage.

END OF SECTION