Imprint® Specification

PART 1 GENERAL

1.1 DESCRIPTION

A. **Imprint** is a Hot Applied Polymer Modified Synthetic Asphalt Surface Treatment that is used extensively on crosswalks, intersections, sidewalks, downtown revitalizations and traffic calming applications.

B. **Imprint** is especially suitable for locations with high numbers of vehicles per day, and is formulated to have very good resistance to rutting and deformation.

C. The materials used to create **Imprint** incorporate graded sand and granite aggregates, reinforced with two types of fibers. All raw materials are carefully graded for consistency and quality to obtain the highest standards.

D. **Imprint** is supplied as a through colored material so surface abrasion will not detract from the overall color of the material.

E. **Imprint** can overlay the existing pavement surface, or be installed flush and level with the existing surface.

F. **Imprint** is available in a variety of colors and patterns.

1.2 DEFINITIONS

A. **"HMA pavement"** is Hot Mix Asphalt pavement.

B. **"PCC pavement"** is Portland cement concrete pavement.

C. **"Owner"** means the Owner and refers to the representative person who has decision making authority for the Work.

D. **"Certified Installer"** refers to a contractor authorized by Dynamic Surface Applications, Ltd. to install **Imprint**.

1.3 SUBMITTALS:

A. The certified installer shall provide proof of their completion of a minimum of five (5) previous successful **Imprint** installations.

B. Provide a copy of proof of purchase of Imprint materials as supplied by Dynamic Surface Applications, Ltd.

C. Stamping pattern(s) and colors must be submitted to the Owner for approval prior to starting the Work.

PART 2 PRODUCTS

The Hot Applied Polymer Modified Synthetic Asphalt Surface Treatment material incorporates polymers, binder resin, pigment, graded silica sand, graded course aggregates and reinforcing fibers.

2.1 GRADE SELECTION GUIDE

Grade 45: For use in Northern US/Canada – light/medium traffic in Southern USA
Grade 60: For use in rest of US states on heavily trafficked roads

Grade 70: For use in hot climate states

2.2 AVAILABLE PATTERNS

- **A.** Brick
- **B.** Herringbone (90° & 45° angle)
- **C.** Cobble Stone
- **D.** Basket-weave
- **E.** Granite Sett

PART 3 EXECUTION

3.1 PRE-CONDITIONS

- **A.** **Imprint** can be installed over pre-existing pavements or new pavements. The pavement must be in excellent condition; more specifically, it must be free from defects such as cracks, settlement, visible seams, ruts, bird baths and spalling.
- **B.** For pre-existing pavements, the pavement can be milled out entirely to accommodate the **Imprint** material or the **Imprint** can overlay the existing pavement.
- **C.** For new pavements, a high quality, highly stable HMA pavement or PCC pavement underlay is a pre-requisite for the installation of the **Imprint** system.
- **D.** Cracking and settlement of the underlayment will reflect through the **Imprint**. Good and proper construction procedures for the installation of the underlayment must be followed in order to mitigate cracking of the **Imprint**.
- **E.** If the pre-existing pavement is smooth or polished, it is not suitable to apply **Imprint**. A skid resistance of 40 or less will require the pavement surface to be roughened.
- **F.** For PCC pavement underlay that has properly installed construction joints, it is recommended to lay the **Imprint** pattern in such a way that the natural joints of the pattern coincide with the construction joints in the substrate. This will mitigate reflective cracking through to the **Imprint**.

3.1.1 New HMA pavement underlay.

- **A.** Prepare the sub-base in accordance with good practices.
- **B.** Generally the HMA pavement mix design for roadways as prescribed by the local jurisdiction will be sufficient for the installation of **Imprint**.
- **C.** Installation is to be in accordance with good practices.
- **D.** Installing HMA pavement by hand **(handwork)** is specifically excluded for the preparation of HMA pavement underlay**.**
- **E.** Before installing **Imprint**, the HMA pavement is to cure and be exposed to traffic for a minimum of 30 days.

3.1.2 New PCC pavement underlay.

- **A.** Prepare the sub-base in accordance with good practices.
- **B.** Generally the PCC pavement mix design for roadways as prescribed by the local jurisdiction will be sufficient for the installation of **Imprint**.
- **C.** Installation is to be in accordance with good practices.
- **D.** The concrete must be a minimum of 30 days old before installing **Imprint**.

E. All concrete substrates are to be treated with a primer. The specified primer must dry before applying **Imprint.**

3.2 MILLING THE PAVEMENT

A. In order to achieve an **Imprint** surface that is level with the surrounding pavement, the pavement will require milling to achieve proper depth level before the application of **Imprint**.

B. The installation area boundaries shall be saw-cut prior to excavating the pavement materials for a clean edge. All pavement materials shall be milled and all excess material removed. The depth of the milled area shall allow the depth of the **Imprint** material to be maintained within a range of ¾" to 1" depth across the entire installation.

C. The existing pavement must be free of cracks. The milling process will not necessarily remove pavement cracks. If the applicator chooses to over-mill cracked areas and re-apply a pavement layer, the applicator will need to be certain that the cracks do not reappear as these will reflect through the **Imprint** surface.

3.3 OVERLAYING PAVEMENT

For overlay installations where the pavement is not to be milled out in its entirety and/or it is desired that the **Imprint** surface be slightly higher than the surrounding pavement, it will be necessary to ensure a proper transition from the surrounding surface to the **Imprint** surface.

A. To facilitate this transition, the applicator will install a construction keyway by saw-cutting and excavating along the boundaries of the finished area. This will allow for a flush clean finish where the two surfaces meet. The applicator shall slope the **Imprint** up evenly to the proper level ensuring a minimum **Imprint** depth coverage of between ¾" and 1" across the transition.

B. The overlay coverage of the **Imprint** material shall be maintained at ¾" to 1" across the entire installation.

3.4 SURFACE PREPARATION

The pavement surface shall be dry and clean: free of all dirt, debris, salts, concrete admixtures and any chemical residues. Bituminous residue must be removed from new HMA pavement surface prior to application of **Imprint**.

Removal of these contaminants may be done by brooming, compressed air, pressure washing or if necessary light-grit blasting. Wire brush may be used to remove loose or powdery materials.

3.5 INSTALLATION OF IMPRINT

A. Application Temperature Conditions

a. Typical material application temperature: 375°F – 425°F.
b. Road temperature: Minimum 32°F and rising.
c. Maximum safe heating temperature: 450°F

B. Application thickness: Imprint is to be applied at a thickness of ¾" to 1".

C. Surfaces with a high degree of porosity require a primer before **Imprint** is installed.

D. The **Imprint** material shall be prepared for installation utilizing a heating kettle specifically designed for Hot Applied Polymer Modified Synthetic Asphalt Surface Treatment and capable of

mixing components to a homogenous consistency. The Material shall be heated within the temperature range of 385 F – 420 F prior to installation.

E. The Hot Applied Polymer Modified Synthetic Asphalt Surface Treatment shall be uniformly distributed onto the pavement surface by means of pre-heated finishing irons.

F. The heated and mixed material is hand applied over the prepared surface at an average depth of between 3/4" and 1".

G. Interface with adjacent surfaces shall be flush, providing smooth transition from surface to surface. Precautions to protect the immediate perimeter around the installation are to be taken.

H. **Applying the silica cover:** Immediately apply the silica cover aggregate at an approximate rate of 1.75 lb/SF. The placement of this material does not require any compaction.

I. **Imprinting the pattern design:** Stamp the pattern into the semi molten material immediately after the silica aggregate application using an approved mold capable of providing a 5/16" +/- 1/16" inch deep impression in accordance to the design details shown on the plans and as approved by the owner.

J. **Curing Time. Imprint** can be open to traffic when the Hot Applied Polymer Modified Synthetic Asphalt Surface Treatment has cooled and hardened. This is typically 1 hour, but depends on the actual ambient conditions. More time may be required in hot weather. After initial set, remove excess aggregate by hand or suction sweeping prior to opening to traffic.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

The measured area is the area of **Imprint** installed, measured in place. No deduction will be made for the area(s) occupied by manholes, inlets, drainage structures, bollards or by any public utility appurtenances within the area.

4.2 PAYMENT

Payment will be full compensation for all work completed as per conditions set out in the contract. For unit price contracts, the payment shall be calculated using the measured area as determined above.

Please call DSA at 800-491-5663 with any questions.