

**ITEM                      IMPRINT® SYNTHETIC RESIN CROSSWALKS                      SQUARE FOOT**

The work under this Item shall include preparation of the pavement surface in conjunction with the installation of IMPRINT® synthetic resin crosswalks where shown on the plans or as directed by the Engineer.

**PREPARATION**

This phase of the work consists of pre-cutting, removal and disposal of the pavement surface and shall be performed in the following general manner:

The section(s) of pavement to be replaced with the textured IMPRINT® surface shall be precut in neat straight lines by approved methods. The existing pavement surface shall be removed to an approximate uniform depth of between .50 and .75 inches. The contractor will be responsible for furnishing and placing a sufficient number of safety cones and *caution* tape to adequately protect all work zones, and to insure the orderly flow of vehicular and pedestrian traffic.

Residues resulting from this element of the work shall be immediately removed from the jobsites and must be disposed of in a proper manner. There will be no additional compensation for the disposal of excavated materials.

All work sites must be properly prepared in accordance with the material manufacturer's requirements. Pavement sections where the surface has been removed must be left in a neat and clean condition, satisfactory to the Owner.

**INSTALLATION OF THE TEXTURED IMPRINT® SYNTHETIC RESIN SURFACE**

Contractor shall be responsible for the preparation, placement and patterning of the resin according to the manufacturer's guidelines and subject to the approval of the Engineer. This synthetic paving material shall be composed of a hot-applied, resin-based compound formulated with a color stable pigment throughout, that shall be surface textured to simulate hand laid; brick, stone and/or masonry. The contractor will be required to overlay IMPRINT® in previously prepared recessed pavement surfaces as described in the preceding PREPARATION section and/or other areas, as directed and approved by the Engineer.

A working knowledge of the specialized technology contained within these specifications is required. Accordingly, the application contractor will be required to furnish written verification that he/she is an accredited, licensed installer of the patented material/process detailed in U.S. Patent 6,358,624, with a minimum of five (5) years of related field experience.

A preliminary, recessed (see Preparation section above) mockup encompassing a minimum surface area of 3' x 3', consisting of the color(s) and pattern(s) selected for this project, will be installed within a section of a planned crosswalk in the designated work area(s), at least five working (5) days prior to the initiation of any phase of construction of the crosswalks. The mockup site will be determined by the engineer. With approval of the completed sample section, work shall begin within twenty-four hours (24) hours of authorized notice to proceed. The cost of the mockup shall be included in the unit price for this item.

The installation phase of this work shall be performed in the following general manner:

Using manufacturer prescribed methods and the specialized equipment described herein, the contractor shall

adequately heat and uniformly mix the IMPRINT® material(s) together with the *Oxide Red* colored pigment supplied by the manufacturer. Maximum heating temperature of the completed formulation is 440 degrees F. The contractor shall then apply the properly prepared, homogeneous IMPRINT® material to the surface of a hardened, structurally sound bituminous concrete or cement concrete pavement, as directed. The IMPRINT® material shall be spread to the desired build thickness (.75 inches) using specialized ironing tools, heated sufficiently to smooth the surface to a state of readiness for patterning. No material shall be applied when precipitation is present.

The surface **pattern** shall be in accordance with the design drawing provided. Final forming will begin immediately after leveling has occurred, while the material is still hot enough to allow the mold selected, to adequately penetrate the surface and create the desired pattern.

Once the finished surface has cooled sufficiently, the application area may be opened to vehicular and/or pedestrian traffic. Any residue resulting from this work shall be removed and disposed of in a proper manner. The completed work area is to be left in a neat and clean condition, satisfactory to the engineer.

The contractor shall take reasonable precautions and steps during crosswalk construction to prevent bodily harm or injury or damage to adjacent materials such as new curb, sidewalks, drainage structures or water supply facilities. The contractor will be responsible for furnishing and placing a sufficient number of safety cones and *caution* tape to adequately protect all work zones, and to insure the orderly flow of vehicular and pedestrian traffic. If during the execution of the work, the contractor, through willfulness or carelessness, permits or causes any damage to public or private property, the cost of repair or replacement shall be the responsibility of the contractor at no expense to the owner.

The contractor shall maintain a minimum ten (10) foot vehicular travel lane at all times during this operation.

## **MATERIAL**

The material(s) used for this surfacing system shall be IMPRINT® or approved equal with the minimum specified field experience and performance characteristics, and consist of a hot-applied resin based compound developed specifically for use on bituminous concrete, with superior adhesion, flexibility and abrasion resistance characteristics, as well as color stability, chemical resistance and scrub ability.

The resin material shall be flexible with form stability consistent with the existing bituminous concrete and be formulated for use with light to medium traffic conditions in conformance to the following minimum physical properties:

<u>Grade</u>	<u>45 (Light/Med Traffic)</u>
Average Temp. Range	25 - 113 degrees F
Wheel Tracking @ 113 F	less than 1 mm/hr
Wheel Tracking @ 140 F	N/A
Density	2.12
Cone Flow Test (5 hrs. @ 194 F)	15% maximum
Plane Test (5 hrs. @ 194 F)	5% maximum
Indent @ 104 F	25 dmm maximum
Indent @ 122 F	N/A
Ash Content	90% maximum
Skid Resistance Value	55 - 70

A manufacturer's certificate of compliance will be required.

Contactors will be required to furnish to the engineer the locations of a minimum of five (5) similar crosswalk projects within New England, in place for a minimum period of five (5) years, as specified herein. The resin-based compound used on these projects must support a documented history of field performance and integrity of the work intended. No waiver of this condition will be allowed.

Proposed material alternatives with sufficient field experience will be subjected to all of the specified testing procedures. Material testing will be conducted by an independent certified laboratory acceptable to the engineer, and will be the financial responsibility of the contractor. Samples failing in any test category will result in immediate rejection of the material from further consideration and may disqualify the contractor from this phase of the work.

## **EQUIPMENT**

Contractors must possess and be familiar with the specialized machinery necessary to perform the procedures as outlined and contained within these technical specifications, including, but not limited to, appropriate trucks, air compressors, miscellaneous asphalt equipment, dispensers, mixers, melters, applicators, heaters, cutters and/or specialized tools etc..

To insure optimum work site efficiency and project safety considerations, two (2) self contained trucks consisting of dual, independent, thermostatically controlled 1.5 ton mixers with a minimum combined capacity of three (3) tons, and total capacity of six (6) tons, specifically designed for use in conjunction with the hot applied IMPRINT® resin will be required on location by this contract.

## **MOBILIZATION**

Construction of the IMPRINT® synthetic resin crosswalks shall commence within twenty-four (24) hours of written notification to proceed issued by the project engineer. Work shall commence within this timeframe without regard to the number of mobilizations that may be required by the engineer to complete this work.

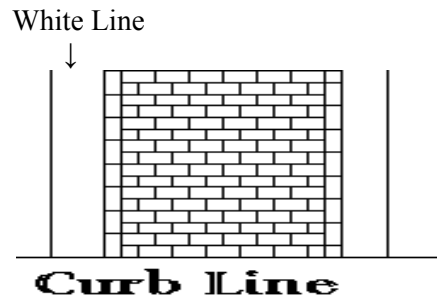
Due to the logistical complications inherent to this type of specialized construction, given the general project size, scope, schedule and public safety concerns, the contractor may not assume that a single mobilization will be sufficient to complete this entire phase of the crosswalk work required in an orderly fashion. No separate payment will be made for mobilization or demobilization.

## **MEASUREMENT and PAYMENT**

Item # - IMPRINT® Synthetic Resin Crosswalks (Brick Pattern) will be measured for payment by the square foot on the pavement surface completed in place. Price shall include all labor, materials, equipment, mobilization, mockup and incidental costs required to complete this work including the pavement removal. No deductions will be made for structures within the work area such as manholes, catch basins or water covers.

## PATTERN

Pattern shall consist of an off-set brick running parallel with the center line with a single course perpendicular to the curb and center lines as depicted in the attached drawing.



## COLOR

The material color shall be an *oxide red*.