

**SECTION 322**  
**ASPHALT STAMPING**

**322.1 DESCRIPTION:**

The work under this item will provide stamped asphalt which shall include surface patterning and/or asphalt surfacing (painting) as described herein in accordance with Owners Standard Details and/or as shown on the plans and called out in the special provisions.

**322.2 GENERAL REQUIREMENTS:**

A Contractor shall meet the following qualifications in order to perform asphalt stamping:

The Contractor shall have completed a minimum of three (3) asphalt stamping projects in the past year (from the date of bid) in the State of Arizona and totaling at least 50,000 S.F. The Contractor shall furnish evidence of meeting these experience requirements to the Engineer. Mock ups may be required at the owner's discretion to ensure Contractor familiarity with product and installation procedures. Acceptance of colors and application procedures should be accepted in writing from the agency/owner prior to commencement of work.

The Contractor shall submit for review and approval all manufacturer product and technical data for materials proposed to be installed in the right-of-way. The Contractor shall also submit for review and approval a sample of the stamped asphalt material prior to installation. These submittals shall be submitted to the Engineer.

Prior to acceptance of the project, the Contractor shall repair all damaged or unsuitable areas, as determined by the Engineer, at no expense to the Owner.

**322.3 MATERIALS:**

**322.3.1 Asphalt Concrete:** All roadway construction materials and asphalt thicknesses shall conform to the applicable requirements of ~~MAG~~ Section 321 and the project plans and specifications. Aggregate base course (ABC) shall be clean, well-graded sand and gravel compacted and placed per ~~MAG~~ Section 321.5.1 and the project plans and specifications.

For raised medians and other areas not subject to vehicular traffic, the surface course shall be at least 2-1/2" of ~~MAG~~ 1/2" or ~~MAG~~ 3/8" asphalt concrete mix in accordance with ~~Section~~~~MAG~~ 710.

**322.3.2 Surface Patterning:** The patterning equipment shall be metal templates that shall correspond to the patterns shown in Owner's standard details or as shown on the plans and called out in special provisions. Refer to the project plans and specifications for the pattern type to be used.

**322.3.3 Surfacing System (Painted Asphalt):** All products used in the surfacing system shall meet the minimum physical and performance properties in Tables 322-1 and 322-2. The Contractor shall submit a Certificate of Compliance to the Engineer indicating that the materials to be included in the work meet these specification requirements. The color used for painted asphalt shall be terracotta or as approved by the Engineer.

TABLE 322-1		
ASPHALT STAMPING SURFACING SYSTEM PHYSICAL PROPERTIES		
Characteristic	Test Specification	Base – Colorant
Solids by Volume (%)	ASTM D2697	<u>6855</u> %
Solids by Weight (%)	ASTM D2369	<u>7868</u> %
Density	ASTM D1475	13. <u>70</u> lbs/lbs./gal

TABLE 322-2		
ASPHALT STAMPING SURFACING SYSTEM PHYSICAL PROPERTIES		
Characteristic	Test Specification	Test Result – Base
Dry-Time (To Recoat)	ASTM D5895	<u>2035</u> Min
Taber Wear Abrasion Dry H-10 Wheel	ASTM D4060 ——— 1 day cure	0. <u>1698</u> g/1000 cycles
Taber Wear Abrasion Wet H-10 Wheel	ASTM D4060 <u>7.7</u> days cure	<u>23.34</u> g/1000 cycles
QUV E Accel.	ASTM G154 Delta	0.53
<del>Hydrophobicity</del> WaterHydr <u>ophobicity Water</u> Absorption	ASTM D-570	<u>78.63</u> % (9 Day Immersion)
Shore Hardness	ASTM D2240	<u>673</u> Type D
Mandrel Blend	ASTM D522-93A	1/4" @ 21 Degree C Pass
Permeance	ASTM D1653	3.77 g/m <sup>2</sup> /hr (52 mils)
VOC	Per MSDS	<u>253</u> g/l
Adhesion to Asphalt	ASTM D4541	Substrate Failure
Friction Wet	ASTM E303 ———British Pendulum Tester	WP * Coated- <u>62</u> WP* Uncoated - <u>597</u> AC ** Coated - <u>70</u> AC ** Uncoated - <u>610</u>
<u>Cure Time</u>	<u>Measured @ 77 Degrees Fahrenheit</u>	<u>Dry to touch – 20 Min</u> <u>Light Foot/Vehicle Traffic – 2-4 Hrs.</u> <u>Full Cure – 5 to 7 days</u>

**322.4 INSTALLATIONINSTALLATION:**

The Contractor shall furnish all the necessary labor, material, tools, and equipment to complete the proper installation of the asphalt print paving used in decorative pavement, crosswalks, and intersection medallions or as otherwise noted in the Contract Documents. This includes furnishing a 10-foot straight edge to accomplish the level test specified for the finished decorative pavement. Pattern and color of finished surface shall be as shown in the project plans and details.

#### **322.4.1 Asphalt Concrete:**

The hot-mix asphaltic concrete shall be placed per the project plans and specifications. The Contractor shall contact the Engineer for roadway compaction approval prior to beginning asphalt stamping. Asphalt shall be fully compacted prior to positioning the patterning template.

**322.4.2 Surface Patterning:** After application and compaction of the asphaltic concrete, while it is still hot, templates shall be positioned on the surface in the required orientation. Templates shall be set in place using a plate compactor and fully embedded using the same compaction equipment used in placing the asphalt (minimum static weight shall be 700 ~~lbs~~ lbs.).

The template print depth shall be 3/8" over 99% of the patterned area. All hand tooling shall be complete, full depth, straight in manner, and to the edge of the asphalt pavement, common edge, concrete curb, gutter, or other border. There shall be no overprint of patterns and no remnants of excess print on surrounding unintended areas.

**322.4.3 Surfacing System (Painted Asphalt & Clear Coat Sealant):** The air temperature shall be at least 50° F and rising before the application of surface system products begins. There shall also be no precipitation expected within 24 hours of the anticipated surfacing completion in order for the application to be authorized by the agencyTown. The surface should be free from laitance, grease, or any other foreign matter prior to placing any pavement coating.

The surfacing system products shall be spray-applied. Where required to cover small areas, the surfacing system may be painted on using brooms or brushes. When complete, the entire asphalt surface shall be covered with the surfacing product with no exposed asphalt present.

The Contractor shall use sufficient masking to ensure that the surface system products are applied only where specified. Masking shall be complete and no overspray onto surfaces not designated as coated surfaces shall be allowed.

The Contractor shall apply the surface system products with a minimum of four complete passes on a roadway surface. Three complete passes shall be allowed on medians, walkways, pathways, and bike paths where traffic is primarily pedestrian with minimal or no automobile traffic. Thickness of the surfacing product shall be 20 mils or greater.

After the colorant has had sufficient time to set, a minimum of two coats (or as specified in the bid documents) of a clear coat sealant (DP-100 or equal equivalent as approved by the agency/engineer) must be applied to provide ease of long-term maintenance and to reduce tire markings on colored asphalt.

After the surfacing system products have been applied, the treated asphalt shall not be exposed to vehicular traffic for eight (8) hours, overnight, or as approved by the Engineer.

**322.5 MEASUREMENT:**

Asphalt stamping shall be measured by the square foot, which shall include surface patterning and/or asphalt surfacing (painting), unless specifically outlined in the bid documents. For example, medallions may be measured on the basis of "each".

**322.6 PAYMENT:**

Asphalt stamping shall be measured as provided above shall be paid for at the contract price per square foot, or as specified in the bid documents, which price shall be full compensation for the item complete as described and specified herein.

**322.7 WARRANTY:**

Asphalt stamping shall have a two year warranty when the colorant and sealer have been applied using the application requirements set forth in this section, or the manufacturers requirements, whichever is greater. Warranty shall provide coverage from flaking and like defects. Color changes shall not be part of the warranty.