

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

**322.1 GENERAL REQUIREMENTS:**

Asphalt stamping creates an imprinted surface pattern and/or installs color coatings to the surface of a newly constructed asphalt pavement.

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. Provide proof of completion of work to three or more government entities within Arizona in last (3 or 5) years totaling 50,000 sq. ft. or more. The Contractor shall furnish evidence of meeting these experience requirements to the Engineer, including all current referral contacts on these projects for verification at the time of bid submittal. 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.

Contractor's field supervisor on the above qualifications shall have been in employment for five years continuous. Field supervisor shall have been on all qualified projects from onset to completion. Field Supervisor name and proof of employment maybe required at the time of bid.

On site or in person Pre-bid meeting held by the local governing agency is mandatory for extended information and release of plans for the project. Bid will be rejected if unattended.

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.

**322.2 MATERIALS:**

All products used in the surfacing system shall meet the minimum physical and performance properties in Table 322-1. 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 as per the bid documents or as approved by the Agency.

<b>TABLE 322-1</b>		
<b>ASPHALT STAMPING SURFACING SYSTEM</b>		
<b>PHYSICAL PROPERTIES</b>		
<b>CHARACTERISTIC</b>	<b>TEST SPECIFICATION</b>	<b>TEST RESULT – BASE</b>
Solids by Volume (%)	ASTM D2697	68% Min
Solids by Weight (%)	ASTM D2369	78% Min
Density	ASTM D1475	13.7 lbs./gal Min

<b>TABLE 322-1</b>		
<b>ASPHALT STAMPING SURFACING SYSTEM</b>		
<b>PHYSICAL PROPERTIES</b>		
<b>CHARACTERISTIC</b>	<b>TEST SPECIFICATION</b>	<b>TEST RESULT – BASE</b>
Dry-Time (To Recoat)	ASTM D5895	20 Min
Taber Wear Abrasion Dry H-10 Wheel	ASTM D4060 1 day cure	0.16 g/1000 cycles Max
Taber Wear Abrasion Wet H-10 Wheel	ASTM D4060 7 days cure	2.34 g/1000 cycles Max
QUV E Accel.	ASTM G154 Delta	0.53 Min
Hydrophobicity Water Absorption	ASTM D-570	7.6% (9 Day Immersion) Max
Shore Hardness	ASTM D2240	67 Type D Min
Mandrel Blend	ASTM D522-93A	1/4" @ 21 Degree C Pass Min
Permeance	ASTM D1653	3.77 g/m <sup>2</sup> /hr. (52 mils) Max
VOC	Per MSDS	25 g/l Max
Adhesion to Asphalt	ASTM D4541	Substrate Failure
Friction Wet	ASTM E303 British Pendulum Tester	WP * Coated- 62 Min WP* Uncoated - 59 Min AC ** Coated - 70 Min AC ** Uncoated - 61 Min
Cure Time	Measured @ 77 Degrees Fahrenheit	Dry to touch – 20 Min Light Foot/Vehicle Traffic – 2-4 Hrs. Full Cure – 5 to 7 days

### **322.3 INSTALLATION & 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.

The Contractor shall obtain the Engineer's approval prior to beginning asphalt stamping.

When new asphalt is to be stamped, it shall have one overnight period to set prior to stamping for conventional mixes and ARAC mixes shall have 30 days to set prior to the stamping/coating process. Asphalt shall be fully compacted prior to positioning the patterning template and meet all the requirements set forth in Sections 321 or 325 as applicable.

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

The asphalt to be stamped shall be uniformly heated using infrared technology to a temperature that shall not exceed 280 degrees Fahrenheit. Templates shall be set in place using a plate compactor and fully embedded into the asphalt.

The template imprint depth shall be 3/8" over 95% of the patterned area. Template print depth shall be inspected prior to coating to ensure compliance. All hand tooling shall be complete, full depth, aligned vertically, and shall extend to the edge of the asphalt pavement, common edge, concrete curb, gutter, or other border. There shall be no over print or shadowing of patterns and no remnants of excess print on surrounding unintended areas. Should overprinting or other imperfections occur, these areas shall be repaired by using the same process outlined in this section to return the asphalt to a smooth condition to that of the unstamped area(s).

**322.3.1 Surfacing System (Painted Asphalt & Clear Coat Sealant):** The air temperature shall be at least 45° 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. The surface shall be free from laitance, grease, deleterious oils, 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 applied using brooms or brushes. When complete, the entire asphalt surface shall be uniformly 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, or other imperfections, 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. After the colorant has had sufficient time to set, a minimum of two coats of a clear coat sealant shall be applied.

Total thickness of the surfacing product shall be 20 mils in thickness or greater including the sealant.

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

#### **322.4 MEASUREMENT:**

Approved and accepted asphalt stamping installations shall be measured by the square foot for asphalt surface patterning with color coating and for asphalt surface color coating without surface patterning. The measurement for asphalt stamping specialty design shall be the number of approved and accepted installations of each specialty design.

#### **322.5 PAYMENT:**

Payment for specialty designs, for Asphalt Surface Patterning With Color Coating, and for Asphalt Surface Color Coating Without Surface Patterning shall be at the contract unit price and shall be full compensation for furnishing all labor, material, tools, equipment and incidentals, and doing all work

involved in the installation of asphalt stamping complete in place, in compliance with the contract documents.

**322.6 WARRANTY:**

Asphalt color coating shall have a two year warranty from flaking, premature wearing and like defects. Color changes shall not be part of the warranty.

Warranty repair shall be at the expense of the Contractor. Areas that require recoating shall receive a light scuffing to remove the clear coat sealant prior to reapplication of the color coating and sealant.