

Stamped Asphalt Generic Specification

1.0 GENERAL

1.1 Summary

This generic specification refers to stamping a pattern into the asphalt surface and applying a colored surface coating treatment. The pattern and color of the stamped asphalt shall be specified on the project drawings.

1.2 Related Sections

Section 1.0 General
Section 2.0 Asphalt Stamping
Section 3.0 Coating Composition and Performance Characteristics
Section 4.0 Delivery, Storage and Handling
Section 5.0 Surface Preparation
Section 6.0 Coating Application
Section 7.0 Coating Thickness
Section 8.0 Applicator Training
Section 9.0 Samples and Mockups
Section 10.0 Field Quality Control

2.0 Asphalt Stamping

2.1 Hot Mix Asphalt (HMA)

New asphalt must be placed to meet local required specifications. Compaction density must be met prior applying the asphalt stamps.

Existing asphalt must contain sufficient surface binder (asphalt cement) to allow a pliable surface when heated.

2.2 Stamping the Asphalt

Using flexible templates, (3/8" cable or 1/4" plastic) stamp the pattern into the asphalt using a vibratory plate compactor. Stamping can be performed on a freshly placed asphalt surface when the asphalt is still pliable or into an existing asphalt surface. An existing asphalt surface must be heated

using an infrared heating apparatus insuring not to heat the surface above 325°F (163°C)

Use slow cycled heat to ensure the surface does not burn. The surface should be heated to a depth of at least ¾" to ensure compaction (not crushing of the aggregate) below the stamping tool.

3.0 Coating Composition and Performance Characteristics

This section covers the composition, handling and application characteristics for the Stamped Asphalt Coating System. Coatings used with this surfacing system must meet the minimum characteristic and performance properties described below.

3.1 Asphalt Coating (Tint Base)

Material Composition and Application Characteristics

Table: 1

Characteristics	Requirement
ASTM D2369 % Solids by weight	> 76%
ASTM D26297 % Solids by volume	> 55.5%
Weight per gallon	13.9 lbs/gal
% non-reactive fillers	< 40%
Boiling Range	147° - 477°F
Vapor Density	Heavier than air
Flashpoint ASTM D 3278	>201°F
Flashpoint ASTM D 3278	>201°F
Hazardous Ingredients	none
Mix Ratio (Coating : LiquidTint) gal/pints	5gal : 1pint
Dry mil thickness per coat	10 to 15 mils

Performance Requirements

Table: 2

Test	Requirement
Dry Time (to re-coat) @ 50°F (10°C).....	120 min
Dry Time (to re-coat) @ 90°F (32°C).....	30 min
85% Cure (to permit traffic) @ 50°F (10°C).....	8 to 10 hours
85% Cure (to permit traffic) @ 90°F (32°C).....	4 to 6 hours
Gloss: ASTM D523 (60° Gardner).....	2.5
Hardness: ASTM D3363	3H pencil
ASTM 2486 Gasoline Scrub Resistance..... To 50% of coating thickness (30 mils).....	>5000 cycles to max loss of 50% coating thickness
ASTM 2486 Motor Oil Scrub Resistance..... To 50% of coating thickness (30 mils).....	>5000 cycles to max loss of 50% coating thickness
Temp. limits for service (of cured material)	-35°F to 145°F
ASTM G-155 Color Stability..... QUV 2,000 hrs (CIE units).....	Old Brick Color $\Delta E < .5$
Pedestrian Friction ASTM E303 British Pendulum.....	88 BPN Dry 72 BPN Wet
Mandrel Bend Test ASTM D522.....	>3/16" Pass
Water Absorption ASTM D570 7day.....	<9%
VOC Content ASTM D3960.....	<19 grams/liter
Taber Abrasion Dry H-10 ASTM D4060 1day cure.....	.17g/1000 cycles
Taber Abrasion Wet H-10 ASTM D4060 7day cure.....	.43g/1000 cycles
Adhesion to Asphalt ASTM D4541 >245 lb./sq.in.....	Asphalt Cohesive Failure

3.2 Liquid Tint (coloring system)

The coloring system "Liquid Tint" shall consist of no less than 95% pure inorganic iron oxide pigments in a water base liquid carrier. Pigment particle size (fineness) must pass 95% minus 325 mesh. Liquid Tint must be alkali resistant, water insoluble, inert, light resistant, inorganic, and lime-proof.

4.0 Delivery, Storage and Handling

4.1 Packaging and Labeling

All coating products shall be packed in standard closed containers. Each container of separately packaged component shall be clearly and durably labeled to indicate the date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name or formula specification number together with special instructions.

4.2 Delivery, Storage and Handling

Coating products shall be delivered to the site in sealed containers that plainly show the designated name, batch number, color, date of manufacturer, and name of the manufacturer. Store the material on site in enclosures, out of direct sunlight in a warm, ventilated and dry area at room temperature; do not allow coating to freeze. Care shall be taken in handling of coating containers to prevent puncture, inappropriate opening or other action, which may lead to product contamination. No materials that are past the coating manufacturer's recommended shelf life shall be used without the approval of the coating manufacturer.

5.0 Surface Preparation

5.1 Cleaning

Broom using mechanical brooming device, or stiff bristle hand broom. Scrape and blow fine sand and debris off of surface. Pressure washing may be necessary to remove bonded debris. Use a non-solvent based degreaser to remove stains. Spray degreaser on stained area and let stand for 15 minutes. Using a stiff broom or brush, agitate the stained area to remove stain and rinse with water. Repeat this procedure on severe stains. Thoroughly rinse the area and let dry for 24 hours.

5.2 Repair Damaged Asphalt

Damaged and cracked asphalt shall be repaired by heating damaged area until the asphalt cement is in a liquid state (ensuring asphalt does not exceed 375° F), turning over and mixing in new fresh asphalt if necessary to ensure repair is level with adjacent area. Infrared type heating mechanisms are the recommended tool for this procedure.

5.3 Preparation of New Asphalt

New asphalt surfaces shall be allowed to traffic for 30 days prior to heating and stamping. This allows the surface oils to be removed. Asphalt mix design shall specified by a qualified Pavement Engineer and shall be designed for the purpose of the application.

6.0 Coating Application

6.1 Environmental Conditions

Surfaces should be dry for at least 24 hours prior to applying Stamped Asphalt coatings. 50°F and rising, is the recommended minimum air and surface temperature. The temperature of the asphalt surface must be at

least 5°F above the dew point temperature during and after applying coating. Coating application must be complete at least two hours before sunset to allow for proper cure.

6.2 Masking

Mask all adjacent areas using paint-grade masking tape. Use duct taped on concrete and asphalt surfaces. Building paper extended a minimum of 48 inches beyond the edge of coated area is required to prevent over-spray of coatings onto adjacent areas.

6.3 Spray Equipment

Spray texture gun (Graco RTX1500 TexSpayer).
or Benron "EZ-TEX DX" sprayers.

The coating manufacturer shall approve spray gun settings and alternative spray equipment.

6.3 Mixing Base Coat

Contractor to follow latest mixing techniques provided by the manufacturer.

7.0 Coating Thickness

7.1 Standard Thickness. The applied thickness of the coating shall be determined according to the application as noted in table 5. The owner may specify a greater thickness if so desired.

Required Film Thickness for Vehicle Traffic

Table: 5

Application	Film Thickness
Prime Coat where applicable	5 wet mils (1 dry mil)
First coat	22 wet mils (15 dry mils)
Second coat	22 wet mils (15 dry mils)
Third coat	22 wet mils (15 dry mils)
Fourth coat were necessary.....	22 wet mils (15 dry mil)

8.0 Applicator Training

8.1 The Applicator shall be approved by the manufacture for the application being applied. The Applicator shall have lead personnel on the project that have been trained by the manufacturer within the past 12 months of starting the project. At least one of these trained personnel shall be on site at all times during the application.

9.0 Samples and Mockups

- 9.1 Samples shall be provided to the owner (or owners representative) for approval prior to tender closing.

Samples shall display the following:

1. Brick or stone Pattern
2. Brick or stone color
3. Variations of the above if requested

Coating samples and mockups, are to be applied to an asphalt surface covering a 96" x 96" area.

Approval of color and pattern to be provided in writing to the bidding contractor no less than 7 days prior to bid closing.

Approved samples and mockups to be held by owner for future onsite verification.

10.0 Field Quality Control

- 10.1 The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record actions in the field.

- 10.2 This log shall include the following information;
1. Surface preparation start date and time
 2. Photos of surface prior to start of preparation
 3. Close up photos of crack repair (before and after) if applicable
 4. Ambient temperature start and end of each day
 5. Relative humidity start and end of each day
 6. Substrate surface temperature start and end of each day
 7. Photos of surface after application of each coat

Note:

On projects larger than 1,000 square feet, break project into areas of approximately 1,000 square feet for the purpose of photo taking and record keeping. Number these areas and record the respective numbers on scaled drawing.

- 10.3 Dry film thickness shall be confirmed by the owner (or owners representative) on site, during the application process.

Method:

2" x 4" lengths of duct-tape (or 2" x 4" thin plastic, glass or metal plates) shall be secured to the substrate that will receive coating. The tape will be randomly placed averaging one tape per 300 sq ft. These tapes shall be pre-marked (on the adhesive side) with location matching a marked, scaled drawing. The tape shall be removed within 1 hour after the final coat has

been applied. These samples shall be kept by the owner (or owners representative) for future verification of dry film thickness (if verification becomes necessary).