

Special Specification 3092

Patterned Asphalt Pavement



1. DESCRIPTION

Provide patterned asphalt surface stamping and coating system coloring on new or existing pavement in accordance with this Specification. Provide the pattern type and color as specified on the plans. Comply with ADA requirements on variations within a pattern.

2. MATERIALS

Use only patterned asphalt pavement products approved for use in vehicular and non-vehicular areas. Meet manufacturer's specifications for patterns, textures, templates, sealers, coatings, and coloring materials. Use material coatings to achieve the pattern and color that will produce an adherent, weather resistant, skid resistant, wear resistant surface under service conditions. Ensure that color is integral and consistent throughout the installation. The composition of materials is left to the discretion of the manufacturer. Verify that materials are characterized as non-hazardous as defined by Resource Conservation and Recovery Act (RCRA), Subpart C, Table 1 of 40 CFR 261.24 "Toxicity Characteristic." Ensure materials do not exude fumes which are hazardous, toxic, or detrimental to persons or property.

- 2.1. **Vehicular Traffic Areas.** For products proposed for use in vehicular traffic areas, the patterned pavement materials are to meet or exceed one of the following friction performance test method values:
- ASTM E-274, Skid Resistance of Paved Surfaces using a standard ribbed full-scale tire at a speed of 40 mph (FN40R), and has a minimum FN40R value of 35; or,
 - ASTM E-1911, Measuring Paved Surface Frictional Properties using the Dynamic Friction Tester (DFT), at a speed of 40 mph (DFT40), and has a minimum DFT40 value of 40.

Provide to the Engineer verification of field service installation testing by the manufacturer.

- 2.2. **Non-vehicular Traffic Areas.** Verify that the product, installed in accordance with the manufacturer's specifications and procedures, has been tested in accordance with ASTM E-303 using the British Pendulum Tester and has a British Pendulum Number (BPN) of at least 40.

3. CONSTRUCTION

- 3.1. **Product Submittals.** Before installing, submit pattern and color samples to the Engineer for confirmation that the product meets the pattern and color specified on the plans. Do not begin installation until acceptance by the Engineer.
- 3.2. **Pavement Cuts.** Before installing the product, complete installation of any utility, traffic loop detector, and other items requiring a cut and installation under the finished surface.
- 3.3. **Surface Protection.** Protect treated surfaces from traffic and environmental effects until the product is completely installed, including drying and curing, according to the manufacturer's instructions.
- 3.4. **Surface Preparation.** Thoroughly clean the surface using a broom and backpack blower with compressed air. Treat areas containing chemical contaminants such as vehicle fluids using a United Cleaning Concentrate (UCC) or an environmentally friendly degreasing solution. Ensure the asphalt substrate is dry before applying surface system coatings.

Allow new asphalt surfaces to cool after final compaction roll to less than 140°F before applying coating. Use the asphalt mix design specified on the plans and designed for the application.

- 3.5. **Pattern Surface Stamping of the Asphalt.** Pattern surface stamping may be performed on a freshly placed asphalt surface when the asphalt is still pliable, or on an existing asphalt surface. Heat an existing asphalt surface using asphalt heating equipment, ensuring that the surface temperature is not above 325°F as determined by an infrared thermometer reading taken after the heat is applied. To achieve the proper depth of imprint, elevate the asphalt pavement temperature to a minimum depth of 1/2 in. without burning the pavement surface.

With the asphalt pavement at stamping temperature, position the stamping template and press it into the surface using vibratory plate compactors. Once the template is flush with the surrounding asphalt pavement, it may be removed. Re-heat and re-stamp areas that have an imprint depth less than 3/8 in. before applying the surface coatings. Use hand tooling to achieve proper imprint depth in areas difficult to access with the template.

- 3.6. **Application of Surface Coating Coloring System.** Apply the surfacing system only when the air temperature is 50°F and rising and is not forecast to drop below 50°F within 24 hr. and no precipitation is expected within 24 hr. Proceed with the surfacing system application as soon as practicable upon completion of the stamping of the asphalt pavement, where applicable.

Apply surface coating coloring system at the rate and method recommended by the manufacturer. Apply additional layers once the first coat has dried. Back-roll using a large nap roller to ensure proper thickness and uniform coverage rates. Ensure the entire surface is covered, including the imprinted surfaces. Ensure the surfacing products are applied only where specified by using enough masking.

Ensure the surface coating coloring system has a uniform texture, color, and appearance with no visible working lines.

- 3.7. **Installation Acceptance.** Upon completion of the installation, the Engineer will check the area at random locations for geometric accuracy. If any of the chosen areas are found to be deficient, correct the entire patterned area at no additional cost to the Department.

Provide certification that the patterned pavement was installed in accordance with the manufacturer's requirements.

4. MEASUREMENT

This Item will be measured by the square yard of patterned asphalt surface stamping and coating system coloring placed and accepted. No deduction will be made for areas occupied by landscaping, manholes, inlets, drainage structures, or public utility appurtenances within the area.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Item 9, Article 2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and the materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Patterned Asphalt Pavement (Vehicular)" and "Patterned Asphalt Pavement (Non-Vehicular)." Placement of the asphalt pavement is paid separately under the appropriate bid items.

The price bid for "Patterned Asphalt Pavement (Vehicular)" and "Patterned Asphalt Pavement (Non-Vehicular)" is full compensation for furnishing the materials required, including templates and surface system materials; stamping, and applying the surface system; equipment, labor, materials, tools, and incidentals.