

OFFICE OF STATE AID ROAD CONSTRUCTION			S.O.P. NO. SA II-1-90
STANDARD OPERATING PROCEDURES			Page 1 of 2
Subject: S.O.P. TACK COAT AND PRIME COAT			Distribution A, B, C, D, E
EFFECTIVE July 1, 2005	ISSUED July 1, 2005	SUPERSEDES Page 1 of 2 S.O.P. NO. SA II-1-90 EFFECTIVE: April 15, 2000	APPROVED J. Brooks Miller, Sr. STATE AID ENGINEER

PURPOSE: To Establish Uniform Policies And Procedures For Application of Tack Coats and Prime Coats.

REFERENCE: Sections S-407 and S-408 of the Standard Specifications.

1. TACK COAT:

A tack coat consists of bituminous material applied at a specified rate per square yard upon an existing pavement surface to increase bond between an existing surface and a new surface. If the tack coat application is too heavy, it will act as a lubricant between the two surfaces and will cause the top surface to slip under the rollers. If the tack coat is too light, the surface course will not bond properly and may slip under the roller, causing waving, checking or cracking.

- 1.1. Application: Just before application of tack material, the surface to be coated must be swept to remove all dirt or other objectionable material which might prevent proper bonding to the existing surface. The roadway surface must be dry, and ambient temperature must not be below that specified for the course being placed. When shown as a separate pay item, material in the distributor must be measured by use of the calibrated dip stick both before and after each application. The distributor should be in level position when checked. Also, temperature of asphalt should be recorded at the beginning of each shot. By determining the area over which material has been placed and correcting the volume of asphalt to 60°F, the application rate per square yard is computed and number of gallons used can be determined for payment.
- 1.2. Traffic Control: In the event the tack is applied by a fast moving distributor, there may be a fine spray of bitumen that could speck or spot cars if opposing traffic is permitted to continue during application. For this reason all traffic should, if at all practicable, be halted by flaggers during the few minutes that application is being made on one-half the roadway.
- 1.3. Length of Application: Responsibility for length of tack coat applied in advance of surfacing placement rests with the Contractor. However, it should be brought to his attention, that a "live" tack will be required at the time of placing surfacing mixture. When traffic or other conditions are such that the length or time of application have reduced the effectiveness of tack, it is the Contractor's obligation to rejuvenate the tack at his expense.

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2. PRIME COAT:

A prime coat consists of low viscosity bituminous material applied at a specified rate per square yard directly upon the surface of a base course which is to receive some type of bituminous wearing surface. Its purpose is to penetrate the existing surface, to coat and bond any loose mineral particles to the surface, to provide a dust free surface for subsequent bituminous applications, and to promote adhesion between the base and a subsequent bituminous treatment.

- 2.1. Preparation of Surface: Before a base is primed it should be checked for smoothness and compliance with the typical cross-section. Immediately before a prime coat is applied the surface of the base should be cleaned of foreign material and free from excess loose fines. Penetration will be more rapid and complete if the surface is slightly moist. Free water should not be on the surface nor should the base contain a considerable amount of moisture.
- 2.2. Application Rate: The optimum quantity of prime required is variable. It depends on such factors as type of base material, amount of fines, texture of surface, and moisture content of the base. Although an application rate used for estimating purposes will usually be shown in the contract, it is the responsibility of the County Engineer to determine the optimum rate. The rate is generally set by a knowledge of the optimum quantity required on other bases of similar nature and characteristics. If the contract requires traffic be maintained, the prime coat must be blotted with sand or other friable material. The Contractor is responsible for maintaining the primed surface in satisfactory condition throughout the curing period and until it is covered by a subsequent layer or course. The curing time for the prime coat is very important if the prime material is a cut-back asphalt. This prime material contains a petroleum solvent and "cures" when the solvent evaporates leaving only asphalt. If a "green" prime is covered, it is likely that it will "bleed" through the overlaying course.
- 2.3. Seasonal and Weather Conditions: Seasonal and weather limitations are stated in Subsection S-410.07 of the Standard Specifications.