



Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

THOMAS F. BARRY, JR.
SECRETARY

December 4, 2002

Mr. Donald Davis
Program Operations Engineer
Federal Highway Administration
227 N. Bronough Street, Suite 2015
Tallahassee, Florida 32301

Re: Office of Design, Specifications
Section 300
Proposed Specification: D3000009.D01 – Prime and Tack Coats for Base Courses
– Method of Measurement

Dear Mr. Davis:

We are submitting, for your approval, two copies of a proposed Supplemental Specification for Prime and Tack Coats for Base Courses – Method of Measurement.

This change has been developed by David Chason, of the State Construction Office for calibration of tanks and temperature correction.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/sh
Attachment

cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

PRIME AND TACK COATS FOR BASE COURSES – METHOD OF MEASUREMENT.
(REV 10-14-02/12-2-02)

ARTICLE 300-9 (of the Supplemental Specifications) is deleted and the following substituted:

300-9 Method of Measurement.

300-9.1 General: ~~The quantity to be paid for will be the volume, in gallons [liters], of bituminous material actually applied and accepted. This quantity will be determined from measurements made by the Contractor and verified by the Engineer based on tank calibrations, as specified in 300-9.2. Where it is specified that prime coat material or tack coat material is to be diluted with water, the quantity to be paid for will be the volume after dilution.~~

~~Provide a Certified Invoice on the form provided by the Department, no later than twelve o'clock noon, Monday after the monthly cutoff date, or as directed by the Engineer, based on the quantity of prime or tack coat placed and accepted. The progress estimate may be held if the Contractor fails to submit the required Certified Invoice.~~

~~Show the following on the Certified Invoice:~~
~~Invoice Number and period represented by the Invoice,~~
~~Contract, FPID and State Project Numbers,~~
~~Type of bituminous coat placed,~~
~~Gallons [Liters] based on the criteria specified in this Subarticle.~~

~~**300-9.2 Calibration of Tanks:** Ensure that all distributors used for applying tack or prime coats are calibrated prior to use by a reliable and recognized firm engaged in calibrating tanks. Provide a certification of calibration and the calibration chart to the Engineer prior to use. In lieu of a volumetrically calibrated distributor, use a distributor that is equipped with a calibrated meter and is approved by the Engineer.~~

~~**300-9.3 Temperature Correction:** Measure the volume and increase or decrease the volume actually measured to a corrected volume at a temperature of 60°F [15°C].~~

~~Make the correction for temperature by applying the applicable conversion factor (K), as shown below.~~

~~For petroleum oils having a specific gravity (60°F/60°F) [(15°C/15°C)] above 0.966, K = 0.00035 [0.00063] per degree.~~

~~For petroleum oils having a specific gravity (60°F/60°F) [(15°C/15°C)] of between 0.850 and 0.966, K = 0.00040 [0.00072] per degree.~~

~~For emulsified asphalt, K = 0.00025 [0.00045] per degree.~~

~~When volume correction tables based on the above conversion factors are not available, use the following formula in computing the corrections for volumetric change:~~

$$V = \frac{V^1}{K(T - 60)[(T/15)] + 1}$$

~~Where:~~

~~V = Volume of the bituminous material at 60°F [15°C] (pay volume).~~

~~V¹ = Volume of bituminous material as measured.~~

~~K = Correction factor (Coefficient of Expansion).~~

~~T = Temperature (in °F [°C]), of the bituminous material when~~

~~measured. The quantity specified will be the volume, in gallons [liters] of bituminous material actually applied and accepted. This spread rate will be determined from measurements made by~~

the Contractor and verified by the Engineer based on tank calibrations, as specified in 300-9.2. Where it is specified that prime coat or tack coat material is to be diluted with water, the amount specified for the spread rate will be the volume after dilution.

300-9.2 Calibration of Tanks: Ensure that all distributors used for applying tack or prime coats are calibrated prior to use by a reliable and recognized firm engaged in calibrating tanks. Provide a certification of calibration and the calibration chart to the Engineer prior to use. In lieu of a volumetrically calibrated distributor, use a distributor that is equipped with a calibrated meter and is approved by the Engineer.

300-9.3 Temperature Correction: Measure the volume and increase or decrease the volume actually measured to a corrected volume at a temperature of 60°F [15°C].

Make the correction for temperature by applying the applicable conversion factor (K), as shown below.

For petroleum oils having a specific gravity (60°F/60°F) [(15°C/15°C)] above 0.966, $K = 0.00035$ [0.00063] per degree.

For petroleum oils having a specific gravity (60°F/60°F) [(15°C/15°C)] of between 0.850 and 0.966, $K = 0.00040$ [0.00072] per degree.

For emulsified asphalt, $K = 0.00025$ [0.00045] per degree.

When volume-correction tables based on the above conversion factors are not available, use the following formula in computing the corrections for volumetric change:

$$V = \frac{V^1}{K(T - 60)[(T15)] + 1}$$

Where:

V = Volume of the bituminous material at 60°F [15°C] (pay volume).

V^1 = Volume of bituminous material as measured.

K = Correction factor (Coefficient of Expansion).

T = Temperature (in °F [°C]), of the bituminous material when measured.

~~ARTICLE 300-10 (of the Supplemental Specifications) is deleted.~~

300-10 Basis of Payment.

There is no direct payment for the work specified in this Section, it is incidental to, and is to be included in the other items of related work.

PRIME AND TACK COATS FOR BASE COURSES – METHOD OF MEASUREMENT.
(REV 12-2-02)

ARTICLE 300-9 (of the Supplemental Specifications) is deleted and the following substituted:

300-9 Method of Measurement.

300-9.1 General: The quantity specified will be the volume, in gallons [liters] of bituminous material actually applied and accepted. This spread rate will be determined from measurements made by the Contractor and verified by the Engineer based on tank calibrations, as specified in 300-9.2. Where it is specified that prime coat or tack coat material is to be diluted with water, the amount specified for the spread rate will be the volume after dilution.

300-9.2 Calibration of Tanks: Ensure that all distributors used for applying tack or prime coats are calibrated prior to use by a reliable and recognized firm engaged in calibrating tanks. Provide a certification of calibration and the calibration chart to the Engineer prior to use. In lieu of a volumetrically calibrated distributor, use a distributor that is equipped with a calibrated meter and is approved by the Engineer.

300-9.3 Temperature Correction: Measure the volume and increase or decrease the volume actually measured to a corrected volume at a temperature of 60°F [15°C].

Make the correction for temperature by applying the applicable conversion factor (K), as shown below.

For petroleum oils having a specific gravity (60°F/60°F) [(15°C/15°C)] above 0.966, K = 0.00035 [0.00063] per degree.

For petroleum oils having a specific gravity (60°F/60°F) [(15°C/15°C)] of between 0.850 and 0.966, K = 0.00040 [0.00072] per degree.

For emulsified asphalt, K = 0.00025 [0.00045] per degree.

When volume-correction tables based on the above conversion factors are not available, use the following formula in computing the corrections for volumetric change:

$$V = \frac{V^1}{K(T - 60)[(T15)] + 1}$$

Where:

V= Volume of the bituminous material at 60°F [15°C](pay volume).

V¹= Volume of bituminous material as measured.

K= Correction factor (Coefficient of Expansion).

T= Temperature (in °F [°C]), of the bituminous material when measured.

300-10 Basis of Payment.

There is no direct payment for the work specified in this Section, it is incidental to, and is to be included in the other items of related work.