

ORIGINATION FORM

Date: 4/28/14

Originator: Greg Sholar

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Specification Title: Prime and Tack Coats

Specification Section, Article, or Subarticle Number: 300

Why does the existing language need to be changed? Update specification to reflect new direction for asphalt emulsion tack and prime materials.

Summary of the changes: Removed reference to specific tacks and primes, since they will now be listed on the QPL (soon to be called the APL). Removed method specs dictating what temperatures to heat tack and prime materials to. Now will refer to manufacturer's recommendations. Removed RA-550 reference (which should have been deleted on a previous version) and updated with the corresponding PG grade (PG 52-28).

Are these changes applicable to all Department jobs? Yes.

If not, what are the restrictions?

Will these changes result in an increase or decrease in project costs? Should be cost neutral.

If yes, what is the estimated change in costs?

With who have you discussed these changes? Suppliers, FDOT staff, and Asphalt Contractors' Association of Florida.

What other offices will be impacted by these changes? Construction.

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? No.

Are all references to external publications current? N/A.

If not, what references need to be updated (please include changes in the redline)?

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? No.

Contact the State Specifications Office for assistance in completing this form.

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ANANTH PRASAD, P.E.
SECRETARY

MEMORANDUM

DATE: May 8, 2014
TO: Specification Review Distribution List
FROM: Daniel Scheer, P.E., State Specifications Engineer
SUBJECT: Proposed Specification: **3000200 Prime and Tack Coats.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Greg Sholar of the State Materials Office (SMO) to update the language for consistency with Department practice.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DS, or daniel.scheer@dot.state.fl.us. Comments received after **June 4, 2014**, may not be considered. Your input is encouraged.

DS/dt
Attachment

PRIME AND TACK COATS.
(REV 4-28-14)

ARTICLE 300-2 is deleted and the following substituted:

300-2 Materials.

300-2.1 Prime Coat: For prime coat, use ~~Emulsified Asphalt Grades SS-1, CSS-1, SS-1H, or CSS-1H diluted in equal proportion with water; Emulsified Asphalt Grade AE-90 diluted at the ratio of six parts emulsified asphalt to four parts water; Special MS Emulsion diluted at the ratio of six parts emulsified asphalt to four parts water; Asphalt Emulsion Prime (AEP), Emulsion Prime (RS Type), EPR-1 Prime, or NTSS-1hm~~ *a product listed on the Department's Approved Products List (APL)*, meeting the requirements of 916-2, or other types and grades of bituminous material which may be specified in the Contract Documents.

Where ~~the above materials for use as a~~ prime coats are to be diluted, certify that the dilution was done in accordance with ~~this Section~~ *the specific dilution requirements for each product and* for each load of material used.

The Contractor may select any of the ~~specified-approved bituminous materials~~ *prime coats* unless the Contract Documents indicate the use of a specific material. The Engineer may allow types and grades of bituminous material other than those specified above if the Contractor can show ~~that~~ the alternate material will properly perform the function of prime coat material.

300-2.2 Cover Material for Prime Coat: Uniformly cover the primed base by a light application of cover material. However, if using EPR-1 prime material, the Engineer may waive the cover material requirement if the primed base is not exposed to general traffic and construction traffic does not mar the prime coat so as to expose the base. The Contractor may use either sand or screenings for the cover material. For the sand, meet the requirements as specified in 902-2 or 902-6, and for the screenings, meet the requirements as specified in 902-5. If ~~exposing~~ the primed base course *will be exposed* to general traffic, apply a cover material that has been coated with 2 to 4% asphalt cement. Apply the asphalt coated material at approximately 10 lb/yd². Roll the entire surface of asphalt coated prime material with a traffic roller as required to produce a reasonably dense mat.

300-2.3 Tack Coat: Unless the Contract Documents call for a specific type or grade of tack coat, use PG 52-28 meeting the requirements of 916-1, heated to a temperature of 250 to 300°F or use an undiluted emulsion ~~RS-1h, RS-2, CRS-1h, NTSS-1hm, NTCRS-1hM, or EM-50-TT~~ *listed on the Department's Approved Products List*, meeting the requirements of 916-2. ~~Heat the emulsion to a temperature of 150 to 180°F~~ *Heat the emulsion to the temperature recommended by the tack coat manufacturer.* ~~The Contractor may use RS-1h modified to include up to 3% naphtha to improve handling of the material during the winter months of December, January and February or at any other time, as approved by the Engineer.~~

For night paving, use PG 52-28 tack coat. The Engineer may approve an ~~emulsion listed above~~ *emulsified tack coat* for night paving if the Contractor demonstrates, at the time of use, that the emulsion will break and not affect the progress of the paving operation.

SUBARTICLE 300-7.1 is deleted and the following substituted:

300-7.1 General: Clean the surface to be primed and ensure that the moisture content of the base does not exceed the optimum moisture. *Heat the prime coat material to the temperature recommended by the prime coat manufacturer.* ~~Ensure that the temperature of the prime material is between 100 and 150°F.~~ The Engineer will designate the actual temperature to ensure uniform distribution. Apply the material with a pressure distributor. Determine the application amount based on the character of the surface. Use an amount sufficient to coat the surface thoroughly and uniformly with no excess.

SUBARTICLE 300-8.4 is deleted and the following substituted:

300-8.4 Rate of Application: Use a rate of application as defined in Table 300-1. Control the rate of application to be within plus or minus 0.01 gallon per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine and record the rate of application a minimum of twice per day, once at the beginning of each day's production and again as needed to control the operation. When using ~~RA-550~~ *PG 52-28*, multiply the target rate of application by 0.6.

Table 300-1 Tack Coat Application Rates		
Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd ²)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.03 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08
Open Graded Friction Course	Newly Constructed Asphalt Layers	0.05
	Milled Surface	0.07

SUBARTICLE 30-8.5 is deleted and the following substituted:

300-8.5 Curing and Time of Application: ~~The Engineer will designate the curing period for the tack coat.~~ Apply the tack coat sufficiently in advance of the laying of the bituminous mix to permit drying, but do not apply the tack coat so far in advance that it might lose its adhesiveness as a result of being covered with dust or other foreign material.