

ORIGINATION FORM

Date: 5-18-11

Originator: Greg Sholar

Contact Information: SMO (352-955-2920)

Specification Title: Bituminous Materials

Specification Section, Article, or Subarticle Number: 916

Why does the existing language need to be changed? 1. AASHTO T 240 identifies the “mass change” to be recorded after testing. Currently, subarticles 916-1.1 and 916-1.3.4 state “mass loss.”

Summary of the changes: 1. Change the wording in subarticles 916-1.1 and 916-1.3.4 from “mass loss” to “mass change.”

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? No. If yes, what is the estimated change in costs?

With who have you discussed these changes? SMO Bituminous staff

What other offices will be impacted by these changes? Construction, but not in a negative way.

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

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.
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M E M O R A N D U M

DATE: June 2, 2011

TO: Specification Review Distribution List

FROM: Rudy Powell, Jr., P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **9160100 Bituminous Materials.**

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 to identify the “mass change” to be recorded after testing. Currently, subarticles 916-1.1 and 916-1.3.4 state “mass loss.

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 SP965RP or rudy.powell@dot.state.fl.us. Comments received after **June 30, 2011** may not be considered. Your input is encouraged.

RP/cah
Attachment

BITUMINOUS MATERIALS.
(REV 5-19-11)

SUBARTICLE 916-1.1 (of the Supplemental Specification) is deleted and the following substituted:

916-1.1 Requirements: Superpave Performance Graded (PG) asphalt binders, identified as PG 64-22, PG 67-22, and PG 76-22, shall meet the requirements of 916-1.2, AASHTO M 320 Table 1 and the following additional requirements:

1. The mass ~~loss~~*change per* AASHTO T 240 shall be a maximum of 0.5% for all grades.
2. The intermediate test temperature at 10 rad/s. for the Dynamic Shear Rheometer test AASHTO T 315 shall be 25°C for all grades.
3. An additional high temperature grade of PG 67 is added for which the high test temperature at 10 rad/sec for the Dynamic Shear Rheometer test AASHTO T 315 shall be 67°C.
4. All PG asphalt binders having a high temperature designation of PG 67 or lower shall be prepared without modification.
5. All PG asphalt binders having a high temperature designation higher than PG 67 shall be produced with a styrene-butadiene-styrene (SBS) or styrene-butadiene (SB) elastomeric polymer modifier and resultant binder shall meet all requirements of this Specification; in addition the phase angle at 76°C (AASHTO T 315) shall be a maximum of 75 degrees.
6. The maximum viscosity AASHTO T 202 shall be 2400 poises for PG 64-22 and 3600 poises for PG 67-22.

All hot mix asphalt (except hot mix asphalt containing 20% RAP or greater) shall contain Superpave PG asphalt binder grade PG 67-22 unless otherwise specified in the plans and/or Specifications for the hot mix asphalt product.

For all PG binder used in all hot mix asphalt, silicone may be added to the PG binder at the rate of 25 cubic centimeters of silicone mixed to each 5,000 gallons of PG binder. If a dispersing fluid is used in conjunction with the silicone, the resultant mixture containing the full 25 cubic centimeters of silicone shall be added in accordance with the manufacturer's recommendation. The blending of the silicone with the PG binder shall be done by the supplier prior to the shipment.

All PG binder and asphalt rubber binder for Friction Course mixes and for other hot mix asphalt products containing RAP shall contain 0.5% heat stable anti-strip additive by weight of PG binder unless specifications for the hot mix asphalt product requires testing by FM 1-T 283 and the test results indicate it is not required, or the mixture contains hydrated lime. Where FM 1-T 283 indicates an anti-strip additive is required, it shall be from 0.25 to 0.75%. The anti-strip additive shall meet the requirements of 916-5. The anti-strip additive shall be introduced into the PG binder by the supplier during loading.

Where PG binder is used in mixes containing reclaimed asphalt pavement (RAP), the requirements of 334-2.3.4 must also be met.

SUBARTICLE 916-1.3.4 (of the Supplemental Specification) is deleted and the following substituted:

916-1.3.4 Reporting: A monthly report by the supplier containing Specification Compliance and Quality Control Test results for each PG binder LOT shall be submitted by the supplier in electronic format using the form provided by the Department to the State Materials Office within seven days following the end of the calendar month. Test results for split samples shall also be included. Process Control Test results shall not be included. Copies of these monthly reports and supporting test reports shall be available at the supply location for a minimum of three years.

The report shall consist of the Specification compliance testing and Quality Control Testing of the following as applicable by these Specifications.

SUPERPAVE PG ASPHALT BINDER		
Test and Method	Conditions	Specification Minimum/Maximum Value
Original Binder		
Superpave PG Asphalt Binder Grade		Report
Qualified Products List Number		Report
Polymer Modifier Type	(PG 76-22 Only)	Report
Solubility, AASHTO T 44	in Trichloroethylene	Minimum 99.0%
Flash Point, AASHTO T 48	COC	Minimum 450°F
Rotational Viscosity, AASHTO T 316	275°F	Maximum 3 Pa-s
Absolute Viscosity, AASHTO T 202	140°F	Max. 2400 P (PG 64-22) Max. 3600 P (PG 67-22)
Dynamic Shear Rheometer, AASHTO T 315	$G^*/\sin \delta$, Test Temperature @ 10 rad/sec, °C Phase Angle, δ , (PG 76-22 Only)	Minimum 1.00 kPa Maximum 75 degrees
Rolling Thin Film Oven Test Residue (AASHTO T 240)		
Rolling Thin Film Oven, AASHTO T 240	Mass Loss Change%	Maximum 0.50
Dynamic Shear Rheometer, AASHTO T 315	$G^*/\sin \delta$, Test Temperature @ 10 rad/sec, °C	Minimum 2.20 kPa
Pressure Aging Vessel Residue (AASHTO R 28) at 100°C		
Dynamic Shear Rheometer, AASHTO T 315	$G^* \sin \delta$, 10 rad/sec. @ 25°C	Maximum 5000 kPa
Creep Stiffness, AASHTO T 313	S (Stiffness), @ 60 sec. @ -12°C M-value, @ 60 sec. @ -12°C	Maximum 300 Mpa Minimum 0.300

9160100
All Jobs