

EXPECTED IMPLEMENTATION JULY 2010

916 BITUMINOUS MATERIALS. (REV 1-14-10) (FA 2-2-10) (7-10)

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

916-1.1 Requirements: Superpave 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 AASHTO T 240 shall be a maximum of 0.5% for all grades.
2. The spot test AASHTO T 102 with standard naphtha shall be negative for all grades. As an exception to this requirement, the PAV Residue (AASHTO R 28) at 110 °C shall meet all the requirements for the particular grade.
3. The smoke point FM 5-519 shall be a minimum of 260°F for all grades.
4. The intermediate test temperature at 10 rad/s. for the Dynamic Shear Rheometer test AASHTO T 315 shall be 25°C for all grades.
5. 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.
6. All PG asphalt binders having a high temperature designation of PG 67 or lower shall be prepared without modification.
7. 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.
8. 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 shall be added to the PG binder at the rate of 25 cm³ of silicone mixed to each 5,000 gallons of PG binder. If a disbursing fluid is used in conjunction with the silicone the resultant mixture containing the full 25 cm³ 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.

EXPECTED IMPLEMENTATION JULY 2010

SUBARTICLE 916-1.2 (of the Supplemental Specifications) is deleted and the following substituted:

916-1.2 Qualified Products List: The Superpave PG asphalt binders supplied under this Specification shall be one of the products included on the Qualified Products List as specified in 6-1. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6 and include a report of test results from an independent laboratory confirming the material meets the requirements of this section. Any marked variation from the original test values for a material below the established limits or evidence of inadequate quality control or field performance of a material will be considered to be sufficient evidence that the properties of the material have changed, and the material will be removed from the Qualified Products List.

For each binder grade, the supplier may be required to submit to the State Materials Office a split sample of material representative of test results submitted with the Product Evaluation Application. In addition, for modified binders, the original PG binder grade, the modifier product designation, and amount added shall be indicated on the Product Evaluation Application and in the Quality Control Program below. Suppliers shall not ship any PG binder until notified that the product is on the Qualified Products List and an approved Quality Control Program meeting the requirements of 916-1.3 has been implemented.

ARTICLE 916-5 (of the Supplemental Specifications) is deleted and the following substituted:

916-5 Liquid Anti-strip Agents.

916-5.1 Requirements: Liquid anti-strip agents shall be tested in accordance with FM 5-508. Tensile strength ratios will be calculated for the following two conditions and expressed as percentages: 1) conditioned mixture without anti-strip to unconditioned mixture without anti-strip and 2) conditioned mixture with anti-strip to unconditioned mixture without anti-strip. A 20% gain in tensile strength ratio for condition #2 as compared to condition #1 shall be required.

916-5.2 Qualified Products List: Liquid anti-strip agents supplied under this Specification shall be one of the products included on the Qualified Products List (QPL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6 and include a report of test results from an independent laboratory confirming the material meets the requirements of this section. In lieu of submitting test results from an independent laboratory, the Department will evaluate the material. For each liquid anti-strip agent, the supplier will submit to the State Materials Office one pint of a representative sample of liquid anti-strip agent when submitting the QPL application to the Department's Product Evaluation Section.

Any marked variation from the original test values for a material below the established limits or evidence of inadequate quality control or field performance of a material will be considered sufficient evidence that the properties of the material have changed, and the material will be removed from the Qualified Products List.

916-5.3 Mix Design Verification: Inclusion of a liquid anti-strip agent on the QPL does not guarantee that the anti-strip will be approved for use in an asphalt mixture. Specifications may require subsequent moisture susceptibility testing per FM 1-T 283 for the particular mix

EXPECTED IMPLEMENTATION JULY 2010

design. Results from this testing may indicate the need for a larger dosage rate of anti-strip agent (up to 0.75% maximum) or a different anti-strip agent to meet the specification requirements.

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