

Standard Practice for Certifying Suppliers of Performance Graded Asphalt Binders

AASHTO Designation: PP26-97¹

1. Scope

1.1 This standard specifies requirements and procedures for a certification system that shall be applicable to all suppliers of performance graded asphalt binder (PGAB). The requirements and procedures shall apply to materials that meet the requirements of MP1, Section 5, Materials and Manufacture, and which are manufactured at refineries, mixed at terminals, in-line blended, or modified at the hot mix asphalt (HMA) plant.

1.2 This standard may involve hazardous materials, operations, and equipment. It does not purport to address all of the safety problems associated with this use. The user of this standard shall be responsible for appropriate safety and health practices.

2. Referenced Documents

2.1 AASHTO Standards:

- MP1 Specification for Performance Graded Asphalt Binders
- PP6 Practice for Grading or Verifying the Performance Grade of an Asphalt Binder
- T40 Method of Sampling Bituminous Materials

2.2 ASTM Standards:

- D8 Definitions of Terms Relating to Materials for Roads and Pavements
- D3665 Random Sampling of Construction Materials

3. Terminology

3.1 AAP - AASHTO Accreditation Program

3.2 Asphalt Binder - An asphalt based cement that is produced from petroleum residue either with or without the addition of nonparticulate organic modifiers.

3.3 ASC - Approved Supplier Certification.

3.4 AS - Approved Supplier

3.5 PGAB - Performance Graded Asphalt Binder

3.6 Supplier - A Supplier shall be defined as one who produces the final product or who makes the blend or modification that alters the properties of the PGAB specified in MP1. A Supplier shall be a refinery, a terminal or an HMA producer. If no modification is made to the PGAB after its initial production at the refinery, the refinery shall be the supplier and must provide the certification. If any modifications is made to the PGAB at the terminal, the terminal shall be the supplier and must provide certification. If any modification, blending, or blending of PGAB from different sources is made at the HMA plant, the HMA producer shall be the supplier and must provide the certification.

Note 1 -- Various refining techniques can produce equivalent PGAB; however, these asphalts may be incompatible with each other. Users shall consider compatibility before combining asphalts from different sources.

3.7 Agency - Agency shall be defined as a state highway agency or other agency responsible for the final acceptance of the PGAB.

3.8 Specification Compliance Testing - Complete testing in accordance with the MP1 specification requirements. The procedure for verification of PGAB as described in PP6 shall be followed.

3.9 Quality Control Testing - The quality control testing shall be described in the Supplier's quality control plan. The Supplier's quality control plan shall be approved by the Agency.

Note 2 -- Definitions for many terms common to asphalt binder are found in ASTM D8.

¹Approved in November 1996, this provisional standard was first published in June 1997.

4. Significance and Use

4.1 This standard specifies procedures for minimizing disruption of PGAB shipments. This is accomplished by a certification system which evaluates quality control and specification compliance tests performed by the Supplier on samples obtained prior to shipment.

4.2 The number of PGAB available under MP1 may require construction of additional storage facilities if the procedure of "sample and hold while testing" is followed exclusively. The addition of new storage capacity at a facility may be infeasible at some locations. Standardization of procedures that allow shipment under an approved supplier certification provides the flexibility needed to use existing facilities and to limit the shipment disruptions.

4.3 This standard provides information on the following activities:

4.3.1 General requirements that the Supplier shall satisfy to be given approved-supplier status.

4.3.2 Minimum requirements that shall be included in a Supplier's quality control plan.

4.3.3 General requirements that the Agency shall satisfy before certification.

4.3.4 Procedure for shipping PGAB under an ASC system.

4.3.5 Procedure for Agency monitoring of an ASC system at the shipping facility.

4.3.6 Procedure for field sampling and testing of PGAB shipped under an ASC system.

5. Hazards - The safety requirements of the field and/or laboratory organization and/or OSHA shall be observed.

6. Sampling - All test samples required by this standard shall be obtained in accordance with T40 and ASTM D3665. The use of a random sampling procedure is mandatory to the establishment of a valid certification program.

7. Testing Requirements - Testing required for this standard shall be performed by a laboratory currently

accredited by the AAP. Any satellite laboratory of a Supplier that performs required testing under this standard shall be identified in the AS Quality Control Plan (Section 9) and shall be approved by the Agency.

Note 3 -- Laboratories need not be accredited until June 29, 2000; however, primary laboratory facilities, test methods and equipment shall be regularly inspected by AASHTO Materials Reference Laboratory. A copy of the AMRL test report on the laboratory inspection shall be provided with the testing results, accompanied by documentation of resolution of any discrepancies in the AMRL report. Cost of this inspection shall be borne by the source of data. Satellite laboratories may be inspected by the source's primary AMRL inspected laboratory staff. A copy of the report of the satellite laboratory inspection shall be provided with the test report, if requested.

8. Supplier Requirements

8.1 The Supplier shall submit a written request to the Agency for authorization to ship PGAB under the ASC system and shall list the PGAB to which the request applies.

8.2 The Supplier shall allow the Agency to visit the production and/or shipping site to observe the Supplier's quality control activities, to inspect the facilities and to obtain samples for test.

8.3 The Supplier shall submit to the Agency for approval a complete quality control plan which complies with the requirements of Section 9.

8.4 The Supplier shall follow the procedures described in the approved quality control plan.

8.5 The Supplier shall establish a continuing test record for each test required on each PGAB included in the written request prepared to satisfy the requirements of Section 8.1.

8.6 The Supplier shall forward to the Agency the initial series of test data for each performance grade included in the written request prepared to satisfy the requirements of Section 8.1. The Supplier shall also obtain and provide a split sample for the Agency if requested.

8.7 The Supplier shall submit to the Agency all

reports required by this standard in a form approved by the Agency. A sample of an acceptable worksheet and standard report form is shown in Figures 1 and 2.

8.8 The Supplier shall have a satisfactory record of compliance with governing specifications. Judgements by the Agency concerning this requirement shall be based on the test results furnished by the supplier and satisfactory results when the monitoring and field tests are compared with supplier tests.

9. Supplier Quality Control Plan (Minimum Requirements)

9.1 The Supplier's quality control plan shall identify the following:

9.1.1 Facility type (refinery, terminal, in-line blending or HMA plant).

9.1.2 Facility location.

9.1.3 Name and telephone number of the person responsible for quality control at the facility.

9.1.4 The quality control tests to be performed on each PGAB.

9.1.5 Name and location of the laboratory performing quality control tests on the PGAB that is shipped.

9.2 The Supplier's quality control plan shall include a declaration stating that if a test result indicates that a shipment of PGAB is not in compliance with the purchase specifications, the Supplier shall (1) immediately notify the Agency of the shipment in question, (2) identify the material, (3) cease shipment until material complies with the specification, (4) notify the Agency prior to resuming shipment; and (5) implement any mutually agreed upon procedures for the disposition of the material. In the event a mutual agreement is not obtained, the specifying agency shall have final authority in the decision on specification compliance.

9.3 The Supplier's quality control plan shall describe method and frequency for initial testing, quality control testing and specification compliance testing.

9.3.1 Initial Testing - For each grade of PGAB to be supplied, specification compliance testing (complete MP1 testing) shall be performed for at least three

consecutive lots. A lot may be a fixed batch of material or a specified quantity in a continuous operation (see Note 4). The Supplier and the Agency shall agree on a lot size. The Agency must approve any change to a lot size.

Note 4 -- If a batch operation is used to manufacture the PGAB, a tank may be defined as a lot. Lot size would be the amount of material batched into the tank. If a continuous process (in-line blending or a shipment from "live " tanks) is used to manufacture the PGAB, lot size may be obtained at random during the production for continuous operations. Lot size shall depend on the production method used and the quantity of the PGAB produced.

9.3.2 Reduced Frequency of Testing for Specification Compliance - If approved by the Agency, the frequency of testing for specification compliance may be decreased if the individual MP1 test result for every sample of the initial testing is within specification by at least the tolerance of the test method for each of the required test methods. With the approval of the Agency, the frequency of testing may be further reduced as long as the individual test results continue to meet the tolerance criterion. If the tolerance criterion is not met, every lot will continue to be tested for the individual MP1 property until three consecutive lots comply with the tolerance criterion.

9.3.3 Minimum Frequency - Specification compliance testing shall be run at the minimum frequency required by the Agency for each PGAB that is supplied.

9.3.4 Quality Control Testing for Guiding Manufacturer - At least two MP1 tests shall be used for monitoring high and low temperature properties of the PGAB. Non-MP1 tests may be used for guiding manufacturer, if approved by the Agency. The use of non-MP1 tests does not preclude the need to meet MP1 specifications or to run complete MP1 tests according to the guidelines in Section 9.3.

9.4 The Supplier's quality control plan shall include a statement that the Supplier will prepare monthly summary reports for all quality control and specification compliance tests performed during that period and will submit them to the Agency on request.

9.5 The Supplier quality control plan shall provide an outline of the procedure to be followed for checking