



## WSDOT Standard Practice QC 2

### ***Standard Practice for Asphalt Suppliers That Certify Performance Graded and Emulsified Asphalts***

#### **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) and emulsified asphalts. The requirements and procedures cover materials manufactured at refineries, materials mixed at terminals, in-line blended materials, and materials blended at the hot mix plant.
- 1.2 This standard may involve hazardous materials, operations and equipment. It does not address all of the safety problems associated with their use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

#### **2. Referenced Documents**

##### 2.1 AASHTO Standards:

M 320 Specifications for Performance-Graded Asphalt Binder

R 29 Standard Practice for Grading or Verifying the Performance Grade of an Asphalt Binder

T 40 Method of Sampling Bituminous Materials

R 18 Establishing and Implementing a Quality System for Construction Materials Testing Laboratories

R 5 Selection and use of emulsified asphalts

T 59 Standard Method of Test for Emulsified Asphalts

##### 2.2 ASTM Standards

D 8 Definitions of Terms Relating to Materials for Roads and Pavements

D 3665 Random Sampling of Construction Materials

##### 2.3 WSDOT Standards and Documents

Current WSDOT *Standard Specifications*

Current WSDOT *Construction Manual*

Appropriate State Specifications

Current WSDOT Qualified Products List

### 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 modifiers.
- 3.3 ASC – Approved Supplier Certification
- 3.4 Modification – Any manufacturing process which alters the properties of a single asphalt binder or emulsified asphalt for the purposes of meeting the requirements of a PGAB or emulsified asphalt.
- 3.5 PGAB – Performance Graded Asphalt Binder
- 3.6 Supplier – A supplier shall be defined as one who produces the final PGAB or emulsified asphalt product, or who makes, blends, modifies, or alters properties of the PGAB or emulsified asphalt. This process can occur at the refinery, terminal, the HMA Plant, or in a transport vehicle.

If no modifications are made to the PGAB or emulsified asphalt after its initial production at the refinery, the refinery shall be the supplier and must provide the certification. If material is purchased with the intent to resell with or without modification, the reseller shall then be considered the supplier.

If any modifications are made to the PGAB or emulsified asphalt at the terminal or in the transport vehicle, then the terminal or transporter shall be the supplier and must provide the certification.

If any modifications, blending or commingling of PGAB or emulsified asphalt from different sources is made at the HMA Plant or by the supplier of HMA or emulsified asphalt, then the supplier shall provide the certification for the PGAB or emulsified asphalt.

- 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 specification requirements for the material identified.
- 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.
- 3.10 HMA- Hot Mix Asphalt
- 3.11 Emulsified asphalt-An emulsion of asphalt cement and water which contains a small amount of an emulsifying agent. Emulsified asphalt droplets may be of either the anionic or cationic type, depending upon the emulsifying agent.
- 3.12 QPL-Washington State Department of Transportation, Qualified Products List.

**Note 1:** Definitions for many terms common to asphalt binder are found in ASTM D8.

### 4. Significance and Use

- 4.1 This standard specifies procedures for minimizing the disruption of PGAB and emulsified asphalt shipments. This is accomplished by a certification system that evaluates quality control, on-site assessments, and specification compliance tests performed by the Supplier according to their quality control plan.

## 5. Sampling

- 5.1 All test samples required by this standard shall be obtained in accordance with AASHTO T 40. The use of a random sampling procedure similar to ASTM D3665 is important to the establishment of a valid certification program.

## 6. Laboratory and Tester Requirements

AASHTO accreditation in any test required by this standard is applicable. Laboratories which are not AASHTO accredited must meet the following requirements

- 6.1 Laboratory facilities shall adequately house and allow proper operation of all required equipment in accordance with the applicable test procedures.
- 6.2 The laboratory shall use personnel qualified in accordance with the appropriate sections of AASHTO R-18.
- 6.3 The laboratory shall use testing equipment that has been calibrated/standardized/checked to meet the requirements of each test procedure in accordance with the appropriate sections of AASHTO R-18.
- 6.4 Documentation of personnel qualifications and the equipment calibration/standardization/check records shall be maintained.
- 6.5 The Agency at their discretion may review the laboratory facility, testing equipment, personnel performing the testing, and review all qualification and calibration and verification testing.

## 7. Supplier Requirements

- 7.1 The Supplier shall submit a written request to the Agency for authorization to supply PGAB or emulsified asphalts. The request shall include copies of their preliminary test reports for the proposed PGAB or emulsified asphalts with the appropriate documentation. If requested by the Agency, a sample of the PGAB or emulsified asphalt shall be provided to the Agency for testing.

**Note:** Suppliers currently on the Qualified Products List shall be exempt from submitting a written request for those products they are already approved. WSDOT may request preliminary test reports and a sample for testing.

- 7.2 The Supplier shall allow the Agency to visit the production and/or shipping site to observe the Supplier's quality control activities, and to obtain samples for testing.
- 7.3 The Supplier shall submit to the Agency for approval a complete quality control plan that complies with the requirements of Section 8.
- 7.4 The Supplier shall follow the procedures described in the approved quality control plan.
- 7.5 A new Quality Control Plan shall be required whenever changes occur that cause the existing Quality Control Plan to become inaccurate or invalid.
- 7.6 The Supplier shall establish a continuing test record for each test required on each PGAB or emulsified asphalts.

## 8. Supplier Quality Control Plan (Minimum Requirements)

- 8.1 The Supplier's quality control plan shall identify the following:
  - 8.1.1 Facility type (refinery, terminal, in-line blending or HMA plant).
  - 8.1.2 Facility location.
  - 8.1.3 Name and telephone number of the contact person responsible for the quality control of the PGAB or emulsified asphalt at the facility.
  - 8.1.4 Name the laboratory performing quality control tests on the PGAB or emulsified asphalt that is shipped.
- 8.2 The Supplier's quality control plan shall include a declaration stating that if a test result indicates that a shipment of PGAB or emulsified asphalt 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 type and grade, (3) cease shipment until the material meets specification compliance, (4) notify the Agency prior to resuming shipment.
- 8.3 The Supplier's quality control plan shall describe the method and frequency for, sampling, specification compliance testing and quality control testing.
  - 8.3.1 Specification Compliance Testing shall be performed on an adequate amount of material to ensure specification compliance. The amount of material shall be agreed upon by the supplier and the Agency and included in the Quality Control Plan.

**Note:** Due to the various operations and manufacturing processes, each supplier will be treated individually.
  - 8.3.2 With the exception of the 24 Hour Storage Stability test, the Supplier of Emulsified Asphalt shall provide test results for each production batch of CRS-2P showing the product meets WSDOT *Standard Specification* 9-02.1(6)A upon or prior of delivery to the project. The 24 Hour Storage Stability test results shall be provided to the State Materials Laboratory in Tumwater within 48 hours of completion of the production batch.
  - 8.3.3 Quality Control Testing as identified in the quality control plan can be specification compliance testing or non-specification compliance testing. The quality control testing does not preclude the need to meet the Agency specifications.
- 8.4 The Supplier's quality control plan shall include a statement that the Supplier will prepare reports for all quality control and specification compliance tests performed during a given period and submit them to the Agency upon request.
- 8.5 The Supplier's Quality Control Plan shall include a procedure, which must be followed, for checking transport vehicles before loading to prevent contamination of shipments.

## 9. Agency Requirements

- 9.1 The Agency shall review the Supplier's Quality Control Plan and respond to the supplier within 30 days.
- 9.2 The Agency may perform quality assurance, acceptance sampling, or verification sampling and testing in accordance with the Agency standards.

## 10. Requirements For Shipping PGAB or Emulsified Asphalt By An Approved Supplier

- 10.1 The Supplier's Quality Control Plan as approved by the Agency (see Section 9) shall be implemented.
- 10.2 Each shipment shall be accompanied by two copies of the bill of lading, which shall include (1) the name and location of the Supplier, (2) the type and grade of material, (3) the quantity of material shipped, (4) the date of shipment, (5) a statement certifying the material meets specification requirements (6) a statement certifying that the transport vehicle was inspected before loading and was found acceptable for the material shipped, and (7) shipments of CRS-2P shall include test results per section 8.3.2.

## 11. Split Sample Testing

- 11.1 The Agency or the Supplier may request split sample testing. The test results will be provided immediately to both parties.
- 11.2 If the split sample test data is not within the precision specified for that particular test, a review of both sampling and testing procedures will be conducted by both the Supplier and the Agency.

## 12. Decertification

- 12.1 A Supplier may have its authorization to certify and supply a specific PGAB or emulsified asphalt revoked by the Agency if it is found not to conform to the specifications and standards as established under this standard. This will include being removed from the *Qualified Products List (QPL)*
- 12.2 The following criteria shall be used to judge the conditions of non-conformance:
  - 12.2.1 Failure to control the quality of the PGAB or emulsified asphalt by failing to follow the procedures described in the Supplier's approved Quality Control Plan as required under Section 8.4.
  - 12.2.2 Failure to cease shipment of PGAB or emulsified asphalt as required under Section 9.2 when a test result indicates that the PGAB or emulsified asphalt is not in compliance with the Agency specifications.
- 12.3 A Supplier that has been decertified may seek reinstatement by demonstrating conformance to Agency certification criteria. Reinstatement will also include reapplication to the *Qualified Products List*.

