

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION
MATERIALS PROCEDURE

CERTIFICATION OF ASPHALT SHIPPING TERMINALS

1. PURPOSE

- 1.1 To establish procedures and conditions for certifying asphalt shipping terminals and to establish inspection and shipping procedures for certified terminals.

2. SCOPE

- 2.1 This procedure applies to liquid asphalt products furnished to state projects and purchase orders for use in highway construction and maintenance. However, Materials Control, Soils and Testing (MCS&T) may elect to use other control procedures when special conditions dictate the need for more stringent control.

3. GENERAL

- 3.1 This standard may involve hazardous materials, operations and equipment. It does not address all of the safety problems associated with their use. The user of this standard will be responsible for appropriate safety and health practices.
- 3.2 The materials covered by this Material Procedure and the applicable specification requirements are as follows:

<u>Material</u>	<u>WVDOH Specification Section</u>	<u>Applicable AASHTO Specification</u>
Performance Graded Asphalt Binders	705.5	AASHTO M-332
Asphalt Emulsions (Anionic)	705.4	AASHTO M 140 and M 316
Asphalt Emulsions (Cationic)	705.11 and 705.12	AASHTO M 208 and M 316
Asphalt Plastic Cement	708.9	None

4. TERMINOLOGY

- 4.1 AASHTO - The American Association of State Highway and Transportation Officials.
- 4.2 AASHTO:resource - The AASHTO Materials Reference Laboratory formerly AMRL.
- 4.3 COA – Certificate of Analysis.
- 4.4 HMA – Hot Mix Asphalt.
- 4.5 Lot – A batch of material produced.

- 4.6 MCS&T – Materials Control, Soils and Testing.
- 4.7 MP – Material Procedure.
- 4.8 WVDOH - West Virginia Department of Highways

5. SIGNIFICANCE AND USE

- 5.1 This Material Procedure (MP) sets forth a method for the quality control of liquid asphalt products. This is accomplished by a certification system that uses test data from both the supplier and the Division.
- 5.2 This MP provides information on the following activities:
 - 5.2.1 General requirements that the supplier must satisfy for approval under the certification program.
 - 5.2.2 Minimum requirements to be included in the Supplier's quality control plan.
 - 5.2.3 Procedures for shipping asphalt.
 - 5.2.4 Procedure for MCS&T monitoring of the system.
 - 5.2.5 Procedure for evaluating monitor, supplier, and field sample test data.

6. PROCEDURE

- 6.1 QUALITY CONTROL PLAN - The supplier will submit a quality control plan, to ensure that the material in stock complies with AASHTO:resource specification requirements. The plan will include the following:
 - 6.1.1 Facility type (refinery, terminal, in-line blending, or HMA plant, etc.), location, person responsible for quality control at the facility.
 - 6.1.2 The tests to be conducted, the name and location of the laboratory or laboratories conducting the tests and the frequency at which the tests are to be conducted. The supplier will include test data that will be sent to Materials Control, Soil and Testing (MCS&T), and how often it is to be submitted. Suggested frequency is weekly, or monthly, during the time when the terminal is in operation.
- 6.2 LABORATORY - The supplier will provide a laboratory with the necessary test equipment and personnel to test the asphalt for specification compliance. The testing may be done at more than one location, for example: terminal laboratory and refinery laboratory and the supplier may elect to have all or part of the tests conducted by a commercial laboratory.
 - 6.2.1 The principal laboratory must be accredited by the AASHTO:resource, or have applied for such inspection and shall participate in the AASHTO:resource Proficiency Sample Testing Program. Exceptions will be made for those materials for which AASHTO:resource does not provide accreditation or a proficiency

sample testing program. In such cases MCS&T may conduct its own inspection as a substitute for the AASHTO:resource inspection.

7. SAMPLING AND TESTING

- 7.1 Sampling and testing shall consist of Quality Control tests by the supplier and testing of monitor samples and field samples by MCS&T. MCS&T field samples, when available, will also be used in the evaluation.
- 7.2 The supplier will obtain samples of all materials to be shipped to West Virginia Department of Highway (WVDOH) projects, at a minimum sampling frequency of one sample each time the tank is filled, or new material is added. All tests required by the specifications will be conducted on each batch.
- 7.3 The supplier will evaluate the test results. If any lot of asphalt does not meet specifications, it must be reworked or rebled until it does meet specifications, or that lot (batch) of material must not be shipped to WVDOH projects. The test data will be submitted to MCS&T.
- 7.4 MCS&T will obtain and test monitor samples, of all materials to be shipped to WVDOH projects. An MCS&T inspector or consultant will visit each supplier approximately three times per year for the purpose of collecting liquid asphalt samples. The inspector or consultant will obtain samples of each material for which the supplier is certified, or wishes to become certified, and has in stock. Additional visits to obtain samples may be made if additional data is needed to evaluate a specific material. These samples will be tested for compliance with all requirements of the governing specifications. Suppliers must include a Certificate of Analysis (COA) for all materials certified at the time of sampling.
- 7.5 MCS&T will evaluate the Quality Control data, monitor sample data and any field sample data that may have been obtained, at intervals of approximately 30 days. If the asphalt does not meet the required criteria, a review will be made of the entire system. This may include sampling and testing procedures, and resampling and testing of both Quality Control and MCS&T samples. If this does not resolve the problem and the asphalt still does not meet the criteria, future shipments of that asphalt must be made using the procedure given for Level Two, in Section 8.3 of this MP, until the criteria is met.
- 7.5.1 If the material continues to not meet specifications or if the supplier has not manufactured a certified material or materials for a maximum of 2 years, then MCS&T retains the right to remove the certification from that material(s).
- 7.6 Performance Graded Binders, Asphalt Emulsions and Asphalt Plastic Cement shall adhere to the WVDOH Specifications 705 and/or AASHTO:resource.
- 7.7 FIELD SAMPLES - Field samples will be tested for compliance with the governing specifications. If the material does not meet these criteria, it will not be shipped under Level Two procedures until the criteria is met.
- 7.8 The percent within tolerance for field samples is defined as the percent of the material statistically predicted to be within the specification limits. It may be based

on either the normal distribution, or the t-distribution, as applicable for the sample size. The minimum number of samples for statistical evaluation is four. For fewer samples the evaluation of failing samples will be made on an individual basis.

- 7.9 When the requirements for certification have been met, the Division will notify the supplier. Shipments may then be made using the procedure given for Level One Quality Procedure, in Section 8.1 of this MP.

8. SHIPPING PROCEDURES

- 8.1 LEVEL ONE - To qualify for Level One shipment, the material must be from a certified terminal, or refinery, and must be included on the current list of approved Asphalt Materials. Shipments may be made at any time.
- 8.2 The supplier will prepare a shipping invoice containing the following information: name and location of company, type and grade of asphalt, quantity and date shipped, and a statement that the asphalt meets specifications. In addition, for material shipped by tanker, the invoice will contain a statement that the transport vehicle has been inspected for contamination and has been found to be acceptable for the type of material being shipped.
- 8.3 LEVEL TWO - Level Two shipments will consist of shipments of asphalt that are not included in the current list of Certified Asphalt Materials, or shipments that are made from unapproved terminals.
- 8.4 Each lot will be sampled by MCS&T or its consultant. The quantity represented by the sample will be the quantity in the storage tank at the time the sample is taken. A new sample must be taken when new material is added to the tank. In the case of materials stored in drums, or pails, the quantity represented by the sample will be the quantity of that lot on hand when the sample was taken.
- 8.5 If the sample meets specifications, shipments may be made until the entire lot has been shipped, or in the case of materials stored in tanks, until new material is added to the tank.

- 8.6 Shipments may be made in accordance with paragraph 8.2 of this MP, except that the specific lot of material must have been tested and must meet specifications. The following additional information is required with the invoice: lot or tank number, date shipped and destination.
- 8.7 Asphalt that does not meet specifications may not be shipped until it has been reworked or rebled and meets specifications.



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