

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
CONTRACT ADMINISTRATION DIVISION

MATERIALS PROCEDURE

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CERTIFICATION OF ASPHALT SHIPPING TERMINALS

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- 1.0 PURPOSE
- 1.1 To establish a procedure for certification of asphalt shipping terminals, to set forth conditions for certification and to establish inspection and shipping procedures for certified terminals.
- 2.0 SCOPE
- 2.1 This procedure applies to asphalts furnished to state projects and purchase orders for use in highway construction and maintenance. However, the Division may elect to use other control procedures when special conditions dictate the need for more stringent control. The specific types of asphalt covered by this procedure are listed in Section 3.2 below.
- 3.0 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 MP and the applicable specification requirements are as follows.

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<u>MATERIAL</u>	<u>DIVISION STANDARD SPECIFICATION SECTION</u>	<u>APPLICABLE AASHTO SPECIFICATION</u>
Performance Graded Asphalt Binder	705.5	AASHTO MP1
Asphalt Emulsions (Anionic)	705.4	AASHTO M 140
Asphalt Emulsions (Cationic)	705.11	AASHTO M 208
Medium Curing Cut-back Asphalt	705.3	AASHTO M 82
Rapid Curing Cut-back Asphalt	705.2	AASHTO M 81
Cut-back Emulsions	Table 705.1	None
Asphalt Plastic Cement	708.9	None
4.0	TERMINOLOGY	
4.1	AASHTO - The American Association of State Highway and Transportation Officials.	
4.2	AMRL - The AASHTO Materials Reference Laboratory.	
5.0	SIGNIFICANCE AND USE	
5.1	This Materials Procedure sets forth a procedure for quality control of asphalt. 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 Division monitoring of the system.
- 5.2.5 Procedure for evaluating monitor, supplier and field sample test data.
- 6.0 PROCEDURE
- 6.1 QUALITY CONTROL PLAN - The supplier will submit a quality control plan, adequate to insure that the material in stock complies with 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 a statement that the test data will be made available to the Division, 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 Materials Reference Laboratory (AMRL), or have applied for such inspection and shall participate in the AMRL Proficiency Sample Testing Program. Exceptions will be made for those materials for which AMRL does not provide accreditation or a proficiency sample testing program. In such cases the Division may conduct its own inspection as a substitute for the AMRL inspection.

- 6.3 INSPECTION - Upon receipt of a request for certification, an inspection will be scheduled by the Division. The inspection will include storage and shipping facilities, inspection of the laboratory, a review of the supplier's Quality Control Testing Program and shipping vehicle inspections will be made annually as deemed necessary.
- 7.0 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 the Division. The Division 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 Division projects, at a minimum sampling frequency of one sample each time the tank is filled, or new material is added. The supplier may submit partial test results for samples tested as part of his quality control program, but all tests required by the specifications will be conducted on each batch.
- 7.3 The supplier will evaluate the test results. If any batch or LOT of asphalt does not meet specifications, it must be reworked or rebled until it does meet specifications, or that LOT of material must not be shipped to Division projects. The test data will be submitted to the Division.
- 7.4 The Division will obtain and test monitor samples, of all materials to be shipped to Division projects. The Division inspector will visit each supplier approximately four times per year for the purpose of taking samples. The inspector 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.

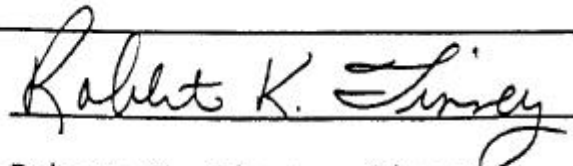
- 7.5 The Division will evaluate the Quality Control data, monitor sample data and any field sample data that may have been obtained, at intervals of approximately 30 days. If the asphalt does not meet the required criteria, a review will be made of the entire system. This may include sampling and testing procedures, and resampling and testing of both Quality Control and Division 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 such time as the criteria is met.
- 7.6 The criteria for evaluation of the test data is given in the attached flow chart. The properties for which mean test results are to be compared are as follows.
- 7.6.1 Performance Graded Binders - Dynamic Shear Rheometer (DSR) test results on original asphalt, after Thin Film Oven Test, and after Pressure Aging Vessel.
- 7.6.2 Cut-Back Asphalts - Viscosity and Penetration tests.
- 7.6.3 Asphalt Emulsions - Viscosity, Penetration and Percent Residue tests.
- 7.6.4 Asphalt Plastic Cement - Percent Nonvolatile Matter
- 7.7 FIELD SAMPLES - Field samples will be tested for compliance with the governing specifications and evaluated in accordance with the criteria given in the flow chart. If the material does not meet this criteria, it will not be shipped under Level Two procedures until such time as 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.

8.0 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 Bituminous 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 tank truck, 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 Bituminous Materials, or shipments that are made from unapproved terminals.
- 8.4 Each batch or lot will be sampled by the Division or its representative. 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 batch, or lot, on hand when the sample was taken.
- 8.5 If the sample meets specifications, shipments may be made until the entire batch or 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 procedure, except that the specific batch or LOT of material must have been tested and must meet specifications. The following additional information is required with the invoice: batch, LOT or tank number, date shipped and destination. The invoice will also contain the following statement: Laboratory Number \_\_\_\_\_, meets specifications. The laboratory number will be that which the Division assigns to the test report for that batch or LOT of material.

- 8.7 Asphalt that does not meet specifications may not be shipped until it has been reworked or reblended, and meets specifications.

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Robert K. Tinney, Director  
Contract Administration Division

Attachment

# FLOW CHART ASPHALT CERTIFICATION PROGRAM

MP401.02.25  
ATTACHMENT

