

Recommend Approval: <u>Robert A. Vellut</u> 1/19/12 Team Leader Date <u>[Signature]</u> 1/19/12 Division Chief Date	Maryland Department of Transportation State Highway Administration Office of Materials Technology <b>MARYLAND STANDARD METHOD OF TESTS</b>	
Approved: <u>Tom Smith</u> 03/09/12 Director Date	<b>EMULSIFIED ASPHALT PRODUCERS,          DEPOTS, &amp; HAULERS</b>	<b>MSMT          460</b>

**SCOPE:**

This method specifies requirements and procedures for certification of materials and Quality Control Plans (QCP) of asphalt emulsion producers, depots and haulers. These requirements and procedures shall apply to materials that meet Maryland specifications for emulsions and to the refinery manufacturing the emulsion and/or to terminals or depots where emulsions may be modified. These provisions also apply to the Contractor after delivery of the emulsion for use on Administration projects.

**REFERENCE DOCUMENTS:**

Sections 504 and 904

M 140

M 208

T 40

T 59

R 18

**TERMINOLOGY:**

**Emulsion** – A binder that is emulsified with water in a colloid mill.

**Producer** – One who produces the final product or who makes the blend or modification that alters the properties of the PG binder. A Producer shall be a refinery, a terminal or an emulsion producer. If no modification is made to the emulsion after its initial production at the refinery, then, the refinery shall be the Producer and must provide certification. If there is any modification of the emulsion by the emulsion producer or at a Depot, the emulsion producer or Depot becomes the Producer and must provide the certification. Emulsions shall not be produced or blended at the Hot Mix Asphalt (HMA) plant.

**Depot** – A company with emulsion holding tanks. This would include any drop tanks at the HMA plant or a transporter of materials if they have holding tanks on their property.

**Haulers** – Tanker truck proprietors who transport emulsion materials to an SHA construction jobsite.

**SAMPLING PROCEDURES:**

Obtain all test samples in accordance with T 40.

**TESTING REQUIREMENTS:**

All certification testing required for this standard shall be performed by a laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL). Identify satellite laboratories that perform the required testing in the Quality Control Plan (QCP) as approved by the Administration.

**PRODUCER’S CERTIFICATION REQUIREMENTS:**

Producers shall have their products listed on the Qualified Products List (QPL) before any emulsion shipments are made to the Administration. Emulsions not listed in the QPL must be processed through the Office of Materials Technology (OMT) for approval. Each emulsion supplied from the Producer’s facility must meet M 208.

The Producer shall allow the Administration to visit the production and/or shipping site to observe the Producer’s quality control activities, to inspect the facilities, and to obtain samples for testing.

1. Submit a Quality Control Plan for approval.
2. The Producer shall have a satisfactory record of compliance with Administration project specifications.

**PRODUCER’S QUALITY CONTROL PLAN (MINIMUM REQUIREMENTS):**

The Producer’s QCP shall identify the following:

1. Facility type (refinery, terminal, in-line)
2. Facility location
3. Name and telephone number of the person responsible for quality control at the facility.
4. Quality control tests and testing frequency for each type of emulsion.
5. Name and location of the laboratory performing quality control tests on the emulsion shipped.

6. Procedures to be used for checking transport vehicles before loading to prevent contamination of shipments.
7. The QCP shall include a statement indicating how any non-compliant material will be handled.
8. Test any material stored at the Producer's facility every 30 days.

**DEPOT'S CERTIFICATION REQUIREMENTS:**

1. A Depot is defined as a facility with holding tanks, whether this is an HMA plant or an emulsion transporter's facility.
2. The Depot shall confirm that the Producer who manufactures the emulsion is on the QPL.
3. The Depot shall allow the Administration to visit its facility to observe the quality control activities, to inspect the facilities, and to obtain samples for testing.
4. The Depot shall indicate in their QCP what steps will be taken to ensure the Plan is being followed and what corrective action is to be taken if it is found that the Plan is not being followed.

**DEPOT'S QUALITY CONTROL PLAN (MINIMUM REQUIREMENTS):**

1. The Depot shall submit information on their QCP describing the type of emulsion to be used and that proper transportation, storage and distribution methods are followed prior to the accepting deliveries of emulsion. Any material stored at the facility will be tested every 30 days, including emulsion in distribution trucks or drop tanks.
2. The Engineer will review the QCP prior to using the material on any MDSHA projects. Any changes to the emulsion or emulsion handling will require approval by the Engineer.
3. The Depot's QCP shall identify the method for emulsion delivery.
4. A Bill of Lading and certification of compliance from the Producer shall be provided for every load of emulsion material. These documents shall also be supplied to MDSHA.
5. The Plan shall describe how changes in the type or Producer of the emulsion used on the paving job will be accomplished. The change shall not result in mixing of different emulsions. The Depot shall inform the Engineer in advance of any change in type or Producer of the emulsion.
6. The QCP shall detail the following if on-site storage tanks are used at the Depot:
  - a) Statement that the tanks are free of contaminants.

- b) If agitation is used in the emulsion storage tanks, the capacity and methods of agitation shall be described.
  - c) Storage and drop tanks shall be labeled clearly in order to identify the emulsion contents.
  - d) Temperatures in the storage tanks shall be routinely monitored.
  - e) Material stored at the Depot will be tested every 30 days, including material in tack distribution trucks or drop tanks.
7. Any on-site sampling and testing shall be described with respect to sampling location and tests to be conducted. The Depot shall obtain and retain a quality control sample of emulsion delivered to the HMA facility. The results of testing on these samples can help isolate the cause of emulsion problems.

**HAULER'S RESPONSIBILITIES:**

The hauler of any emulsion material delivered for use on an SHA project shall be responsible for verifying the type of material in the tanker. Mixing of different classes, types or grades of emulsified asphalt is prohibited. The hauler shall certify by signature that previous material hauled is not detrimental to the current load. A Bill of Lading and Certificate of Compliance stating that the material being delivered meets all specification requirements for performance graded asphalt emulsion will be presented to the Depot manager.