
Standard Specification for

**Materials for Emulsified Asphalt
Fog Seal**

AASHTO Designation: MP XX-17

Technical Section 2a

Release: Group 3 (Month yyy)

WORKING DRAFT



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1. SCOPE

- 1.1. This standard specifies quality requirements for emulsified asphalt as used for fog seals
- 1.2. A fog seal is the light application of emulsified asphalt to the pavement surface, which may be used to provide a surface seal, arrest light raveling, or create color contrast between traffic lanes and shoulders to improve visibility. Fog seals are also applied to newly placed chip seals to lock in loose chips and provide a more aesthetically pleasing finished product.

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standards:*
- M 140, Emulsified Asphalt
 - M 208, Cationic Emulsified Asphalt
 - M 316, Polymer-Modified Emulsified Asphalt
 - T 304, Uncompacted Void Content of Fine Aggregate
 - PP XX, Emulsified Asphalt Fog Seal Design

3. TERMINOLOGY

- 3.1. Slow Setting type emulsified asphalt- Any emulsified asphalt containing the designations CSS-1, CSS-1h, SS-1 and SS-1h.
- 3.2. Medium Setting type emulsified asphalt – Any emulsified asphalt containing the designations CMS-2, MS-2, or HFMS-2.
- 3.3. Rapid Setting type emulsified asphalt – Any emulsified asphalt containing the designations RS-2, CRS-2, or HFRS-2.
- 3.4. Quick Setting type emulsified asphalt – Any emulsified asphalt containing the designations QS, CQS, CQS-1P or CQS-1hP.

4. SIGNIFICANCE AND USE

- 4.1. This standard may be used to select and evaluate materials for use as emulsified asphalt fog seals.

- 4.2. Fog seal emulsified asphalts are most typically slow setting emulsified asphalt without polymer, including diluted versions of SS-1, SS-1h or CSS-1, CSS-1h.
- 4.3. For applications such as fog treatments on open-graded surface mixes, polymer modified emulsified asphalt meeting the requirements of M 316 may be used. Dilution rates may vary, and residue application rates will increase. These emulsified asphalts are usually made with slow setting or quick setting emulsifiers.
- 4.4. Fog seals are commonly applied over newly placed chip seals. When shorter curing times are needed for restoration of traffic, slow setting emulsified asphalts may be replaced by other types such as quick setting (QS or CQS), medium setting (MS or CMS), or even rapid setting (RS or CRS).
- 4.5. Small quantities of fine aggregate can be applied immediately behind the emulsified asphalt distributor to improve friction or to allow traffic to pass before the emulsified asphalt has cured. Fine aggregate used for friction shall have a minimum angularity of 45 as determined by T 304. This requirement does not apply to fine aggregate used solely as a blotting material.

5. EMULSIFIED ASPHALT REQUIREMENTS

- 5.1. Before dilution emulsified asphalt for fog seals shall meet requirements defined in M 140, M 208 or M 316 as applicable. The residue hardness classification is determined by the Owner Agency utilizing regional climatic and traffic conditions.
- 5.2. Fog seal emulsified asphalts are typically diluted 1:1 by weight with water or a compatible surfactant solution before application. The final diluted product shall be a fluid, homogeneous mixture that is capable of being sprayed evenly by a pressure distributor. All emulsified asphalt must be diluted at the manufacturer's plant site. Slow-setting emulsified asphalt can be diluted with water. All other emulsified asphalt types must be diluted by using a surfactant solution compatible with the emulsified asphalt.
- 5.3. To determine appropriate application rates, reference PP XXX-XX (Fog Seal Design Practice)

6. KEYWORD

- 6.1. Fog seal; surface seal; emulsified asphalt;