
Supplemental Technical Specification for

HMA Liquid Anti-Strip Additives (LASA)

SCDOT Designation: SC-M-406 (06/07)

1. SCOPE

- 1.1 Provide an Asphalt Binder that is pre-blended at the terminal with a liquid anti-strip additive (LASA) and adhere to all applicable sections of the Standard Specifications and appropriate Special Provisions.
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2. REFERENCED DOCUMENTS

- 2.1 SCDOT Standard Specifications
- 2.1.1 Division 400
- 2.2 AASHTO Standards
- 2.2.1 M 320
- 2.3 SCDOT Test Methods
- 2.3.1 SC T 70
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3. MATERIALS

- 3.1 Asphalt Binder
- 3.1.1 Ensure that the Asphalt Binder is PG64-22, conforming to the requirements of AASHTO **M 320** unless otherwise specified.
- 3.2 Liquid Anti-Strip Additive
- 3.2.1 Ensure that the LASA is storage and heat stable and is compatible with the crude source of binder selected.
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4. QUALITY CONTROL

- 4.1 Binder Supplier
- 4.1.1 Certification of Liquid Anti-strip additive must be submitted to the Asphalt Materials Engineer (AME) prior to use.
- 4.1.2 Bill of Laden (BOL) must include percentage or amount of LASA added, manufacturer, and type used.
- 4.1.3 Once an LASA has been submitted, it will be added to a "Frequently Used" listing.
- 4.2 HMA Contractor
- 4.2.1 Perform Tensile Strength Ratio (TSR) tests, in accordance to **SC-T-70**, within the first 500 tons of production of each Job mix Formula (JMF) which contains LASA. Provide

additional specimens for verification purposes as requested by Asphalt Materials Engineer (AME).

- 4.2.2 Perform TSR tests every 5 days of production of individual JMF which contains LASA.
 - 4.2.3 Utilize an X-Y recorder to document the strengths of the gyratory compaction specimens.
 - 4.2.4 Submit the results to the AME and District Asphalt Manager (DAM) within 3 calendar days of making the specimens. The DAM will add the results to the plant report. Cores may be tested off site as documented in the HMA Contractor QC program.
 - 4.2.5 Retain each BOL from each tanker in the field laboratory.
 - 4.2.6 Ensure there is no dilution of LASA-modified binder. When it is necessary to add LASA-modified binder to a tank containing unmodified binder, either:
 - a) add 1% hydrated lime to the mixture until all the original unmodified binder has been moved out of the tank, or
 - b) strap the binder storage tank to determine the amount of unmodified binder, and determine the additional amount of LASA needed to bring the contents of the tank up to the minimum requirement. Include the necessary additional LASA in the added binder to achieve the proper dosage.
- When using method (b), perform a TSR test during the first day the combined binder is used to verify sufficient LASA is in the binder.

5. CONSTRUCTION REQUIREMENTS

- 5.1 Conform all work to Section 401 of the Standard Specifications and other applicable special provisions except when noted herein.

6. ACCEPTANCE

- 6.1 Acceptance parameters for the LASA will be based on passing TSR results (85% TSR, 65% WTS). If failing results are obtained at any time, 1% hydrated lime must be added to the mix at no additional cost to the department until the AME can perform an evaluation. This evaluation will include reheating retained mixed material and making TSR specimens in the Central Laboratory of the Office of Materials and Research and/or testing 4" roadway cores. If evaluated samples are not acceptable, the representative material will be removed and replaced at no additional expense to the Department.