

## **SUPPLEMENTAL SPECIFICATION**

### **AMENDMENT TO SECTION 410 – BITUMINOUS SURFACE TREATMENT**

*The purpose of this Supplemental Specification is to:*

- *Adopt new AASHTO specifications for emulsions (2.1 – 04/13/16)*
- *Revise the pavement conditions and application rates for tack (3.4.1.1 – 01/04/17)*
  - *Identify tack sampling and penalties for non-conformance (2.1.1, 2.1.2, 3.2, 3.3, 3.4, 06/06/17)*
- *Amend distribution equipment and initiate an annual tack truck inspection program (3.2, 3.5.2, 07/06/18)*

**Amend** 2.1 to read:

**2.1** Bituminous material shall be the type and grade specified or ordered and shall conform to the requirements of AASHTO M 140 or M 208, except as amended in Section 702.

**Amend** 3.2, 3.3, and 3.4 to read:

#### **3.2 Equipment.**

General equipment requirements for this work shall be as follows:

- (a) Tack distribution trucks shall have a minimum GVW of 26,000 lbs and shall be equipped with a storage tank of 1,200-gallon minimum capacity.
- (b) A tack distribution system shall be designed, equipped, maintained, and operated such that bituminous material at even heat (150° F) may be applied uniformly on variable widths of surface up to 12' at readily determined and computer-controlled rates with uniform pressure. Distributor equipment shall include: a tachometer, pressure gauges, accurate inside and outside volume measuring devices, and an exterior thermometer for measuring temperatures of tank contents. Distributors shall be equipped with a power unit for the pump and with full circulation spray bars adjustable laterally and vertically from the truck cab. The spray bar shall contain spray nozzles providing a fan-shaped spray pattern adjusted so the vertical axis is perpendicular to the pavement surface. The spray pattern and spray bar height shall be adjusted to provide a uniform application of the tack coat [double coverage should be avoided for seal coats; overlapping coverage is required for tack coats]. The distributor shall be equipped with a mechanical device to adjust the spray height as material is discharged to keep a uniform height above the pavement for full coverage with the correct overlap. The distributor shall also be equipped with a hand-held spray attachment and 25' hose for applying the material to areas inaccessible to spray bars and to fill in irregular areas to provide full coverage. Approved sampling valves shall be installed in distributors and transport tank trucks to permit the taking of representative samples of the contents. The recommended location of the sampling valve is in the rear bulkhead of the tank, roughly one-third of the height above the bottom. The inlet pipe shall project into the contained liquid as shown in ASTM D 140.

- (c) A rotary power broom shall be required unless the equipment listed under (d) is provided.
- (d) In urban and/or curbed sections, a vacuum truck or street sweeper shall be provided.
- (e) For seal coat applications only:
  - i A steel-wheeled roller.
  - ii A self-propelled pneumatic-tired roller.
  - iii A sand spreader capable of spreading blotter material in sufficient quantity to prevent traffic pickup of the applied bituminous material.
  - iv A steel-brush drag of an approved type.

**3.2.1** Only certified tack distributors will be allowed. Vehicles and equipment will be subject to a yearly inspection by June 1<sup>st</sup> by the NHDOT Paving Specialist which will include field verification of spray patterns. Yearly inspection shall be arranged with a ten working day notification. Approved vehicles will receive a seal certifying the tack distributor for that year.

**3.2.2 Sampling.** Tack shall be sampled as directed by the Engineer using new non-metal sample containers provided by the Engineer. Samples shall be taken by the operator in the presence of the Engineer. At least 1 qt. of material shall be drained off through the sampling valve and discarded before the sample is taken. To prevent the loss of solvents, containers shall be sealed with a tight fitting cover immediately after being filled and provided to the Engineer for testing. Any tack that is found to be out of specification will result in non-payment for all tack applied on the date the tack is sampled.

**3.2.2.1** Non-conforming tack will be evaluated by the Engineer to determine if overlying pavement should remain in place. Any pavement left in place shall not relieve the Contractor of the responsibility for latent defects and/or gross mistakes in the pavement layer above it as outlined in section 107.14.

**3.3 Surface Preparation for Tack Coat.** The existing surface shall be patched and shall be free of irregularities to provide a reasonably smooth and uniform surface to receive the treatment. Unstable corrugated areas shall be removed and replaced with suitable patching materials. The edges of existing pavements that are to be adjacent to new pavement shall be cleaned to permit the adhesion of bituminous materials.

#### **3.4 Application of Tack Coat.**

**3.4.1** Bituminous material shall be uniformly applied with an approved applicator. When ordered, a pressure distributor shall be used. The tack coat shall be applied in such a manner as to offer the least inconvenience to traffic and to permit one-way traffic without pickup or tracking of the bituminous material.

**3.4.1.1** A tack coat shall be applied immediately prior to placement of pavement. The rate of application of emulsified asphalt shall be between 0.02 and 0.06 gal/yd<sup>2</sup>, based on the application rate table below. The Engineer may further modify the rate depending on the relative absorbance and texture of the pavement surface.

Existing Pavement Condition	Application Rate in Gal/yd <sup>2</sup>
Smooth HMA	0.02 – 0.04
Milled HMA	0.04 – 0.06

**Amend** 3.5.2 to read:

**3.5.2** Blotter material at the rate ordered shall be applied before the bitumen has set; the entire treated surface shall be dragged, rolled and maintained. The remaining blotter material shall be removed with a power broom.

**Amend** 5.1 to read:

**5.1** The accepted quantities of bituminous surface treatment will be paid for at the Item Bid Price per ton for bituminous material, complete in place.

**Add** Section 5.2.2

**5.2.2** The quantity of tack coat used on the day represented by a non-conforming test sample will not be paid.