

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION 906**

ANTISTRIP ADDITIVE FOR ASPHALT CONCRETE

May 5, 1998

On this project, if any gravel coarse aggregate or more than 25 percent natural sand or more than 20 percent reclaimed materials containing gravel coarse aggregate is used in any bituminous aggregate base designed in accordance with Supplement 1044 or any asphalt concrete designed in accordance with 441, then the Contractor shall perform the following additional tests:

1. Moisture damage potential test in accordance with Supplement 1051.
2. Washed gradation in accordance with AASHTO T 11 as modified by Supplement 1004.
3. Adherent fines test for each component in accordance with ASTM D 5711.

If the results of the moisture damage potential test show the Tensile Strength Ratio (TSR) of the bituminous aggregate base mix or asphalt concrete mix to be less than 0.70, then the mix shall be modified by one of the following antistrip additives:

Liquid Antistrip Material - The mix shall include liquid antistrip material at a rate of 0.50 to 1.00 percent by weight of the asphalt cement. The TSR of the bituminous aggregate base mix or asphalt concrete mix shall be greater than or equal to 0.80 after the addition of the liquid antistrip material.

Hydrated Lime - The mix shall include hydrated lime in the dry form at a rate of 1.0 percent by the dry weight of aggregate for asphalt concrete and 0.75 percent by the dry weight of aggregate for bituminous aggregate base. The hydrated lime shall meet the requirements of AASHTO M 303, Type 1. A list of approved sources of hydrated lime will be maintained by the Laboratory. To become an approved source, a source shall submit certified test data to the Laboratory showing their hydrated lime meets the requirements of AASHTO M 303, Type 1. Annual submittal of certified test data by January 1 each year will be necessary to maintain approval. The following information shall be provided to the Engineer for each shipment of hydrated lime: (1.) letter of certification; (2.) production date; (3.) shipment date; (4.) shipment destination; (5.) batch or lot number (6.) net weight.

The antistrip additive shall be included in the Contractors' mix design established in accordance with 441 or Supplement 1044. The following shall be submitted to the Laboratory with the proposed JMF:

1. All TSR data (before and after the addition of the antistrip additive).
2. Rate of addition of the liquid antistrip material, if used.
3. Product information, recent supplier State project information using the liquid antistrip material, and letter of certification (only for liquid antistrip material, if used).
4. Results of the washed gradation test of the individual components of the mix used in determining the combined gradation.
5. Results of the adherent fines testing for each component.

The Laboratory may perform additional tests in accordance with Supplements 1051, 1052, and 1004. These tests may be performed on material conforming to a proposed JMF or on material obtained during production of an approved JMF. If a change in the aggregate production is suspected, the District/Laboratory may require the Contractor to perform washed gradations on components and calculate adherent fines to determine the need for additional TSR review. The Laboratory may obtain samples of the hydrated lime at any time to verify quality. If the quality of the hydrated lime is in question, the Laboratory may require independent laboratory testing for the hydrated lime supplier.

Antistrip additives shall be stored and introduced into the mix in accordance with Supplement 1053. Prior to the start of production, the Laboratory shall approve the antistrip additive storage and feed systems. During production, if the antistrip additive is not being properly dispersed into the mix, the Laboratory may require modifications in the method of introducing the antistrip additive into the mix.

At the end of the project and at the end of each construction year on a multiple year project, the Contractor shall provide delivery tickets to the Engineer verifying the number of pounds of antistrip additive used is within 10 percent of the calculated amount of antistrip additive required for the total pounds of bitumen, based on the JMF, used in the bituminous aggregate base or asphalt concrete.

The cost of this additional testing and the addition of any antistrip additive shall be included in the contract price for the bituminous aggregate base or asphalt concrete.