

Date: July 15, 2011

To: MAG Specification and Detail Committee members

From: Jeff Benedict

RE: case 11-09 section 334, 718 "Preservative seal"

Purpose: To bring section into current available products and practices used in the MAG area of use. Current products have been added and now conform to MAG standard

Revisions: added "plastic seal", "TRMSS" and conventional emulsified asphalts. We removed "petroleum hydrocarbon resins, and Petroleum resin emulsions. These products are difficult to apply to pavements successfully. Bleeding and surface texture loss are typical results of these product applications. Revisions to the 718 table reflect the new products and current test methods.

This would be considered a major change.

## SECTION 334

### PRESERVATIVE SEAL FOR ASPHALT CONCRETE

#### 334.1 DESCRIPTION:

The asphalt concrete preservative seal shall be composed of an emulsified asphalt or ~~penetrating softening agent and~~ asphalt sealant to ~~rejuvenate and~~ preserve the asphalt concrete pavement.

Preservative seals are applicable for ~~new and existing~~ asphalt pavements as directed on the plans, special provisions, or the Engineer.

#### 334.2 MATERIALS:

The preservative seal shall be as specified by the engineer.

They shall be one of the following materials:

Acrylic polymer emulsion (section 718, type A)

CSS-1, or SS-1h (section 713)

A "filled" asphalt sealer such as Sealmaster's TRMSS or equal (section 718 type C)

#### 334.3 CONSTRUCTION METHOD:

The material shall be approved by the Engineer in accordance to this specification. The application rates, dilution and curing shall be directed by the Engineer in accordance with this specification.

The application rate will be based upon a typical surface condition test site with application rate trials to determine the needed rate. All application rates specified in Section 712 shall be a diluted 50-50 ~~preservative seal~~ emulsified asphalt and water, except as recommended by the manufacturer for Type C ~~∅~~. Any over applied seal will be sanded as directed by the Engineer. Application equipment shall be in accordance with Section 330.

Before opening a treated area to traffic, the surface shall be checked for slipperiness and/or tackiness. If the treated portion of the roadway must be opened to traffic prior to the disappearance of slipperiness and/or tackiness, the surface shall be sanded with a minimum of 1 ½ pounds per square yard or as directed by the Engineer. Sand Blotter shall comply with Section 333.

#### 334.4 MEASUREMENT:

Preservative seal for asphalt concrete will be measured by the gallon or ton applied ~~including diluent~~.

#### 334.5 PAYMENT:

Payment will be made on the basis of the unit price bid in the proposal. Payment shall be full compensation for preservative seal complete and in place.

**SECTION 718**  
**PRESERVATIVE SEAL FOR ASPHALT CONCRETE PAVEMENT**

**718.1 GENERAL**

Asphalt Concrete preservative seal shall be one of the following types or equal, with typical application rates.

**TYPE A-** Acrylic polymer, modified emulsion. Diluted to the manufacture’s recommendation and applied at a rate of .10 to .20 gallons per square yard.

**TYPE B-** Emulsified asphalt, type SS-1h orCSS-1h. Diluted to 1:1 with hot water, and applied at a rate of .10 to .15 gallons per square yard. Material shall meet all requirements in section 713 as well as those specified in table 718-1.

**Type C-** Sealmaster’s TRMSS or equal not diluted, and applied at a rate of .10 to .20 gallons per square yard.

**718.2 TEST METHODS AND REQUIREMENTS**

Preservative seal for asphalt concrete material, shall meet type A, B, or C on table 718-1by certification from the manufacturer.

All tests shall be performed by AMRL accredited laboratory, accredited in the specified test being performed.

**Table 718-1**

<b>Properties *(note 2)</b>		Type-A	Type-B	Type -C
Saybolt Viscosity @77F (sfs)	AASHTO T12	15-40	20-100	45-55(KU)*(note 1)
Residue by evaporation 138C		53min.	57 min.	30-40
Sieve test %		.10 max.	.10 max.	N/A
<b>Test on residue from evaporation AASHTO t59</b>				
Flash point F		450F	450F	450F
Softening point		130 F min.		130F min
Accelerated weathering test		Report (note 3)		Report *(note 3)
Ductility(@77F)100g 5 sec.		20 min.	40 min.	N/A
Storage stability, test 1 day%		N/A	97.5 min	N/A

Notes:

- 1, Kreb units (ASTM D562)
2. A full set of tests shall be performed by as specified by the special provisions in the undiluted condition. These tests and any other specified will be performed at the contractor’s expense.
- 3.The Ultraviolet resistance testing results will be provided at no cost to the engineer.