

## ORIGINATION FORM

**THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR**

Modify Specification \_\_\_\_\_916\_\_\_\_\_.  
Section/File number

New Section \_\_\_\_\_.  
Section number

**Subject:** Bituminous Materials – Emulsified Asphalts - Requirements

**Origination date:** July 21, 2006

**Originator:** Thomas O. Malerk  
**Office/Phone:** State Materials Office/ 352-955-6620  
**Email address/** [tom.malerk@dot.state.fl.us](mailto:tom.malerk@dot.state.fl.us)  
**Userid:**

**Problem statement:** Contractors and Department personnel have expressed a need for tack materials that provide better resistance to pick-up and “tracking”, and tack materials that will “break” readily for night work. Suppliers have developed products that they indicate will meet these characteristics.

**Information source:** Gale Page, State Materials Office, 352-955-2903

**Background data:** The Department has done limited evaluations of these products in the lab and field. These results indicate the bonding characteristics are similar to currently specified RS-1 and RS-2. The State Flexible Pavement Committee recommended that the Department’s evaluation was sufficient to recommend that these materials be included in the Specifications. The change to 916-4 Emulsions will include 2 new products: CRS-1h and NTSS-1hm.

**Recommended Usage Note:** All asphalt projects.

**Estimated fiscal impact, if implemented:** None.

**Implementation of these changes, if and when approved, will begin with the July 2007 letting.**



# Florida Department of Transportation

JEB BUSH  
GOVERNOR

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DENVER J. STUTLER, JR.  
SECRETARY

## MEMORANDUM

**DATE:** August 14, 2006  
**TO:** Specification Review Distribution List  
**FROM:** Duane F. Brautigam, P.E., State Specifications Engineer  
**SUBJECT:** Proposed Specifications Change: **9160401**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Bituminous Materials-Requirements.

This change was proposed by Tom Malerk of the State Materials Office to provide tack materials that will provide better resistance to pick-up and “tracking”, and tack materials that will “break” readily for night work.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after September 11, 2006, may not be considered. Your input is encouraged.

DFB/bd

Attachment

COMMENTS:

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Submitted by:

Phone #:

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**BITUMINOUS MATERIALS-REQUIREMENTS.****(REV 7-26-06)**

SUBARTICLE 916-4.1 (Pages 779-783) is expanded by the following:

**916-4.1 Requirements.**

EMULSIFIED ASPHALT GRADE CRS-1h		
Test	Conditions	Minimum/Maximum
Tests on Emulsion:		
Saybolt Furol Visc	77°F{25°C}	20 – 100 seconds
Storage Stability	24 hour	maximum 1%
Demulsibility	35 ml 0.8% Sodium Dioctyl Sulfosuccinate (a)	minimum 60%
Sieve Test		0.10% max
Residue by Distillation	500°F. Distillation {260°C}	minimum 55%
Naphtha Portion	500°F. Distillation {260°C. Distillate}(b)	maximum 3% by volume
Particle charge		positive
Tests on Residue From Distillation Test:		
Penetration (0.1mm)	77°F{25°C}, 100g, 5 seconds	minimum 60
Viscosity	140°F {60°C}	minimum 1600 poise {160 Pa·S}
Ductility	77°F {25°C}	minimum 400 mm
Solubility	in Trichloroethylene	minimum 97.5%
(a) The demulsibility test shall be made within 30 days from the date of shipment.		
(b) When CRS-1 has been modified to include naphtha, the 24 hour storage stability will be waived.		

EMULSIFIED ASPHALT GRADE NTSS-1hm		
Test	Conditions	Minimum/Maximum
Tests on Emulsion:		
Saybolt Furol Visc.	77°F{25°C}	25 – 500 seconds
Storage Stability	24 hour	maximum 1%
Settlement	5 days	maximum 5%
Residue by Distillation		minimum 35%
Naphtha Content	500°F. Distillation {260°C}	maximum 1% by volume
Sieve Test	500°F. Distillation {260°C. Distillate}(a)	0.10% max
Particle charge		positive
Tests on Residue From Distillation Test:		
Penetration (0.1mm)	77°F{25°C}, 100g, 5 seconds	minimum 60
Softening Point ASTM D36		minimum 149°F{65°C}
Dynamic Shear Rheometer	G* sin $\delta$ , 186.8°F{86°C} @	minimum 1.00 kPa

AASHTO T315	10rad/sec	
Solubility	in Trichloroethylene	minimum 97.5%
(c) Sieve test may be waived if no application problems are present in the field.		