

State: Alaska	Materials: Re: Section 702-Asphalt Materials
Date: 11/27/2024	Web Address: www.dot.state.ak.us
Contact: Stephan Saboundjian	Contact Info: steve.saboundjian@alaska.gov

Asphalt Emulsion	
Highlights	N/A
Exclusions and Limits	N/A

Alaska		Table 1: Requirements for Cationic Emulsified Asphalts (1)				
Property	Test Method AASHTO (T), ASTM (D)	Rapid-Setting		Medium-Setting	Slow-Setting	
		CRS-2	CRS-2P	CMS-2	CSS-1	
EMULSIONS:						
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	-	-	-	20-100	
	50 °C (122 °F)	100-400	100-400	50-450	-	
Storage Stability Test, 24 hours, %	(2)	1 max.	1 max.	1 max.	1 max.	
Sieve Test, %	(2)	0.30 max.	0.10 max.	0.30 max.	0.30 max.	
Particle Charge		Positive	Positive	Positive	Positive	
Demulsibility, %	(3)	40 min.	40 min.	40 min.	-	
Cement Mixing Test, %		-	-	-	2.0 max.	
Coating Ability and Water Resistance	Dry Aggregate	-	-	Good	-	
	After Spraying	-	-	Fair	-	
	Wet Aggregate	-	-	Fair	-	
	After Spraying	-	-	Fair	-	
Residue, %		65 min.	65 min.	65 min.	57 min.	
Oil Distillate, volume of emulsion, %		3 max.	-	3 max.	-	

DISTILLATION RESIDUE:					
Penetration, 25 °C (77 °F), tenths of mm	T49	100-250	90-150	100-250	100-250
Ductility, 25 °C (77 °F), cm	T51	40 min.		40 min.	40 min.
Solubility in trichloroethylene, %	T44	97.5 min.		97.5 min.	97.5 min.
Elastic Recovery, 25 °C (77 °F), %	T301	-	60 min.		
Ash Content, %	T111	-	7 max.		
NOTES:	<ol style="list-style-type: none"> 1. Refer to R5 for typical applications. 2. This test requirement on representative samples is waived if successful application of the material has been achieved in the field. 3. Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution. 				

Table 2: Requirements for High Float Emulsified Asphalt (1)

Property	Test Method AASHTO (T), ASTM (D), or Other	Medium-Setting		
		HFMS-2	HFMS-2s	
EMULSIONS:				
Viscosity, Saybolt Furol seconds	T59	25 °C (77 °F)	100 min.	50 min.
		50 °C (122 °F)	-	-
Storage Stability Test, 24 hours, % (2)		1 max.	1 max.	
Sieve Test, % (2,3)		0.30 max.	0.30 max.	
Demulsibility, % (4)		-	-	
Coating Ability and Water Resistance		Dry Aggregate	Good	Good
		After Spraying	Fair	Fair
		Wet Aggregate	Fair	Fair
		After Spraying	Fair	Fair
Residue, %		65 min.	65 min.	
Oil Distillate, volume of emulsion, %	-	1-7		
DISTILLATION RESIDUE:				
Penetration, 25 °C (77 °F), tenths of mm	T49	100-200	200 min.	
Ductility, 25 °C (77 °F), cm	T51	40 min.	40 min.	
Solubility in trichloroethylene, % (5)	T44	97.5 min.	97.5 min.	
Float Test at 60 °C (140 °F), seconds	T50	1200 min.	1200 min.	
NOTES:	<ol style="list-style-type: none"> 1. Refer to R5 for typical applications. 2. This test requirement on representative samples is waived if successful application of the material has been achieved in the field. 3. A maximum percentage of 0.30 is acceptable for samples taken at the point of use. 4. The demulsibility test shall be performed within 30 days from the date of shipment. Use 35 ml, 0.02 N CaCl₂ solution. 5. N-propyl bromide may also be used for HFRS-2. 			

Alaska		Table 3: Requirements for Special Tack Emulsion (STE)	
Property	Test Method AASHTO (T), ASTM (D), or Other	STE-1	
EMULSIONS:			
Viscosity, Saybolt Furol Seconds	25 °C (77 °F)	T59	30 max.
Storage Stability Test, 24 hours, %			1 max.
Sieve, %			0.10 max.
Particle Charge (1)			Positive
Demulsibility, % (2)			25 min.
Residue, %			45 min.
Oil Distillate, volume of emulsion, %			5.0 max.
DISTILLATION RESIDUE:			
Penetration, 25 °C (77 °F), tenths of mm	T49		100-250
Ductility, 25 °C (77 °F), cm	T51		40 min.
Solubility in trichloroethylene, %	T44		97.5 min.
NOTES:	1. If Particle Charge Test is inconclusive, material having a max pH of 6.7 is acceptable. 2. Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution.		