

<b>State:</b> Arkansas	<b>Materials:</b> Re: Section 403
<b>Date:</b> 8/13/25	<b>Web Address:</b> <a href="https://www.ardot.gov/wp-content/uploads/2020/10/Division-400.pdf">https://www.ardot.gov/wp-content/uploads/2020/10/Division-400.pdf</a>
<b>Contact:</b> Paul Tinsley	<b>Contact Info:</b> paul.tinsley@ardot.gov

Arkansas		Table 1: Requirements for Anionic Emulsified Asphalts (1)								
Property	Test Method AASHTO (T), ASTM (D), or Other	Rapid-Setting		Medium-Setting			Slow-Setting		Quick-Setting	
		RS-1	RS-2	MS-1	MS-2	MS-2h	SS-1	SS-1h	QS-1H	
<b>EMULSIONS:</b>										
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	20-100	-	20-100	100 min.	20-100			
	50 °C (122 °F)		-	75-400	-					
Storage Stability Test, 24 hours, % (2)	1 max.						-			
Sieve Test, % (2,3)	0.10 max.									
Demulsibility, % (4)	60 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, %		55 min.	63 min.	55 min.	65 min.	57 min.				
<b>DISTILLATION RESIDUE:</b>										
Penetration, 25 °C (77 °F), tenths of mm	T49	100-200			40-90	100-200	40-90	40-90		
Ductility, 25 °C (77 °F), cm	T51	40 min.								
Solubility in trichloroethylene or n-propyl bromide, %	T44	97.5 min.								
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>1. Refer to AASHTO R5 for typical applications.</li> <li>2. This test requirement on representative samples is waived if successful application of the material has been achieved in the field.</li> <li>3. A maximum percentage of 0.30 is acceptable for samples taken at the point of use.</li> <li>4. The demulsibility test shall be performed within 30 days from the date of shipment. Use 35 ml, 0.02 N CaCl<sub>2</sub> solution.</li> </ol>									

Arkansas		Table 2: Requirements for Cationic Emulsified Asphalts (1)						
Property	Test Method AASHTO (T), ASTM (D), or Other	Rapid-Setting		Medium-Setting		Slow-Setting		Quick-Setting
		CRS-1	CRS-2	CMS-2	CMS-2h	CSS-1	CSS-1h	CQS-1h
<b>EMULSIONS:</b>								
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	-				20-100		
	50 °C (122 °F)	20-100	200-500 (2)	50-450	50-450	-		
Storage Stability Test, 24 hours, % (3)	T59	1 max.						-
Sieve Test, % (3)		0.10 max.						
Particle Charge		Positive						
Demulsibility, % (4)		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, %		60 min.	68 min.	65 min.		57 min.		
Oil Distillate, volume of emulsion, %	3 max.		12 max.		-			
<b>DISTILLATION RESIDUE:</b>								
Penetration, 25 °C (77 °F), tenths of mm	T49	100-250			40-90	100-250	40-90	
Ductility, 25 °C (77 °F), cm	T51	40 min.						
Solubility in trichloroethylene, %	T44	97.5 min.						
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>1. Refer to AASHTO R5 for typical applications.</li> <li>2. Saybolt Furol Viscosity shall be 100-500 Saybolt Furol seconds for destination field samples. If the asphalt being tested begins to drip at 122 °F (50 °C) test temperature, the test shall be repeated at 160 °F (70 °C) and shall be within the limits of 90-200 Saybolt Furol seconds.</li> <li>3. This test requirement on representative samples is waived if successful application of the material has been achieved in the field.</li> <li>4. Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution.</li> </ol>							

Arkansas		Table 3: Requirements for High Float Emulsified Asphalt (1)				
Property	Test Method AASHTO (T), ASTM (D), or Other	Rapid-Setting	Medium-Setting			
		HFRS-2	HFMS-1	HFMS-2	HFMS-2h	HFMS-2s
<b>EMULSIONS:</b>						
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	-	20-100	100 min.		50 min.
	50 °C (122 °F)	75-400	-			
Storage Stability Test, 24 hours, %	(2)	1 max.				
Sieve Test, %	(2,3)	0.10 max.				
Demulsibility, %	(4)	60 min.	-			
Coating Ability and Water Resistance	Dry Aggregate	-	Good			
	After Spraying	-	Fair			
	Wet Aggregate	-	Fair			
	After Spraying	-	Fair			
Residue, %		63 min.	55 min.	65 min.		
Oil Distillate, volume of emulsion, %		-			1-7	
<b>DISTILLATION RESIDUE:</b>						
Penetration, 25 °C (77 °F), tenths of mm	T49	100-200		40-90	200 min.	
Ductility, 25 °C (77 °F), cm	T51	40 min.				
Solubility in trichloroethylene, %	(5) T44	97.5 min.				
Float Test at 60 °C (140 °F), seconds	T50	1200 min.				
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>1. Refer to AASHTO R5 for typical applications.</li> <li>2. This test requirement on representative samples is waived if successful application of the material has been achieved in the field.</li> <li>3. A maximum percentage of 0.30 is acceptable for samples taken at the point of use.</li> <li>4. The demulsibility test shall be performed within 30 days from the date of shipment. Use 35 ml, 0.02 N CaCl<sub>2</sub> solution.</li> <li>5. N-propyl bromide may also be used for HFRS-2.</li> </ol>					

Arkansas		Table 4: Requirements for Polymer Modified Asphalt Emulsions		
Property	Test Method AASHTO (T), ASTM (D), or Other	Rapid-Setting		
		CRS-2P	CRS-2L	
<b>EMULSIONS:</b>				
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	-	
	50 °C (122 °F)		200-500 (1)	
Settlement, 5 days, %			-	
Storage Stability Test, 24 hours, %			1 max.	
Sieve Test, %			0.10 max.	
Particle Charge Test			Positive	
Demulsibility, %			40 min.	
Residue by Evaporation, %	T59		68 min.	
<b>EVAPORATION RESIDUE:</b>				
Penetration, 25 °C (77 °F), tenths of mm	T49	250 max.		
Ductility, 5 cm/minute, cm	4 °C (39.2 °F) T51	30 min.		
Force Ratio (f2/f1)	T300	0.30 min.	-	
Elastic Recovery, 25 °C (77 °F), %	T301	50 min.	-	
Polymer Solids content, %	-	2.5 min.		
Solubility in Trichloroethylene, %	T44	97.5 min. (2)		
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>Saybolt Furol Viscosity shall be 100-500 Saybolt Furol seconds for destination field samples. If the asphalt being tested begins to drip at 122 °F (50 °C) test temperature, the test shall be repeated at 160 °F (70 °C) and shall be within the limits of 90-200 Saybolt Furol seconds.</li> <li>If the solubility of the residue is less than 97.5 percent, the base asphalt binder for the emulsion shall be tested. The solubility of the base asphalt binder shall be greater than 99%.</li> </ol>			

Arkansas		Table 5: Requirements for Inverted Emulsions	
Property		Test Method AASHTO (T), ASTM (D), or Other	Inverted Emulsions
<b>EMULSIONS:</b>			
Viscosity, Saybolt Furol seconds	60 °C (140 °F)	T59	100 min.
Stone Coating Test	Coating, %	(1)	90 min.
	Asphalt Run-off, %		0 max.
Flash Point, Tag Open Cup, °F		-	200 min.
Residue by Distillation, %		T59	80 min.
Oil Distillate, volume of emulsion, %			2 min.
<b>DISTILLATION RESIDUE (2):</b>			
Absolute Viscosity, P		T202	30-800
Solubility in Trichloroethylene, %		T44	97.5 min.
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>Stone Coating Test (at 60 °C (140 °F)): 1) Weigh 200 g of dry aggregate (at the gradation of the mix design) into a beaker. 2) Weigh 4 grams of distilled water into the beaker containing the dry aggregate and mix for 30 seconds. 3) Dose dry aggregate with inverted emulsion at optimum AC % and add to the beaker containing the damp aggregate and mix vigorously for 120 seconds. 4) Dump contents in beaker onto a metal pan or suitable surface and visually check coating of aggregate. There shall be no evidence of asphalt run-off.</li> <li>Tests on residue from Cutback Distillation (AASHTO T78).</li> </ol>		