

<b>State:</b> Alabama	<b>Materials:</b> Re: Section 804, Asphalt Materials; 804.04 Emulsified Asphalt
<b>Date:</b> 8/13/25	<b>Web Address:</b> <a href="https://www.dot.state.al.us/publications/Construction/Specifications.html">https://www.dot.state.al.us/publications/Construction/Specifications.html</a>
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Alabama		Table 1: Requirements for Anionic Emulsified Asphalts	
Property	Test Method AASHTO (T), ASTM (D)	NTSS-1HM	
<b>EMULSIONS:</b>			
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	25-500
Settlement, 5 days, %			5 max.
Storage Stability Test, 24 hours, %			1 max.
Particle Charge			Negative
Residue, %			50 min.
Oil Distillate or Naphtha, volume of emulsion, %			1 max.
<b>DISTILLATION RESIDUE:</b>			
Penetration, 25 °C (77 °F), tenths of mm	T49		20 max.
Softening Point, °C	T53		65 min.
<b>NOTES:</b>	None.		

Alabama		Table 2: Requirements for Cationic Emulsified Asphalts (1)								
Property	Test Method AASHTO (T), ASTM (D)	Rapid-Setting		Medium-Setting		Slow-Setting		Quick-Setting		
		CRS-1h	CRS-2h	CMS-2	CMS-2h	CSS-1	CSS-1h	CQS-1h	CNTT-1hs	
<b>EMULSIONS:</b>										
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	-				20-100		100 max.	
	50 °C (122 °F)		15-100	200-500	50-450		-			
Storage Stability Test, 24 hours, % (2)	1 max.					-		1 max.		
Sieve Test, % (2)	0.10 max.									
Particle Charge	Positive									
Demulsibility, % (3)	-		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		-			
Classification Test	-		Pass	-						
Residue, %	55 min.	65 min.			57 min.		50 min.			
Oil Distillate, volume of emulsion, %	3 max.		12 max.		-		3 max.			
<b>DISTILLATION RESIDUE:</b>										
Penetration, 25 °C (77 °F), tenths of mm	T49	40-90	70-100	100-250	40-90	100-250	40-90			
Ductility, 25 °C (77 °F), cm	T51	-	60 min.	40 min.				-		
Softening Point, °C	T53	49 min.	-				49 min.			
Solubility in trichloroethylene, %	T44	-	97.5 min				-			
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>1. Refer to 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. Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution.</li> </ol>									

Alabama		Table 3: Requirements for High Float Emulsified Asphalt	
Property		Test Method AASHTO (T), ASTM (D)	AE-P
<b>EMULSIONS:</b>			
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	10-50
Settlement, 5 days, %			5 max.
Sieve Test, %			0.10 max.
Residue, %			45 min.
Oil Distillate, volume of emulsion, %			12 max.
<b>DISTILLATION RESIDUE:</b>			
Solubility in trichloroethylene, %		T44	97.5 min.
Float Test at 60 °C (140 °F), seconds		T50	20 min.
<b>NOTES:</b>		None.	

Alabama		Table 4: Requirements for Polymer Modified Asphalt Emulsions					
Property	Test Method AASHTO (T), ASTM (D)	Rapid-Setting			Medium-Setting	Quick-Setting	
		CRS-2P	CRS-2L	CRS-2hp	CMS-1hp	CQS-1hp	
<b>EMULSIONS:</b>							
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	-			30-400	20-150
	50 °C (122 °F)		100-400	200-500	-		
Storage Stability Test, 24 hours, %	1 max.						
Sieve Test, %	0.10 max.						
Particle Charge Test	Positive						
Demulsibility, %	40 min.		60 min.	-			
Classification Test	-		Pass	-			
Residue by Distillation, %	65 min.			50 min.	60 min.		
Oil Distillate, volume of emulsion, %	-		3 max.			-	
<b>DISTILLATION RESIDUE:</b>							
Penetration, 25 °C (77 °F), tenths of mm	T49	100-175	70-100	45-90	60-110		
Ductility, 5 cm/minute, cm	4 °C (39.2 °F)	30 min.	-				
	25 °C (77 °F)	125 min.	60 min.	-	40 min.		
Force Ratio (f2/f1)	T300	0.30 min.	-				
Elastic Recovery, 10 °C (50 °F), %	T301	50 min. (1)					
Polymer Solids content, % (2)	-	3.0 min.					
Solubility in Trichloroethylene, %	T44	97.5 min. (3)	97.5 min.	-	97.5 min.		
Softening Point, °C	T53	-			40	-	
<b>NOTES:</b>	<ol style="list-style-type: none"> <li>The following exceptions shall be made to the requirements given in AASHTO T301: The statement given in Section 4.5 that reads "Attach the clips to the pins or hooks of the force adapter and the testing machine..." shall be disregarded. The mold shall be in accordance with the requirements given in ASTM D6084 with dimensions noted in this method.</li> <li>All polymers shall conform to the requirements given in Section 811. All Elastic Recovery failures will be subject to FTIR scans for acceptability.</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>						

Alabama		Table 5: Requirements for Non-Ionic Emulsions		
Property		Test Method AASHTO (T), ASTM (D)	NTQS-1HL	CBC-1HT/BC-1HT
<b>EMULSIONS:</b>				
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	100 max.	-
	50 °C (122 °F)		-	10-100
Storage Stability Test, 24 hours, %			1.0 max.	1.0 max.
Sieve Test, %			0.10 max.	0.30 max.
Particle Charge			Non-Ionic	-
Residue, %			60 min.	50 min.
Oil Distillate, volume of emulsion, %			12 max.	-
<b>DISTILLATION RESIDUE:</b>				
Penetration, 25 °C (77 °F), tenths of mm		T49	20 max.	-
Softening Point, °C		T53	60 min.	-
DSR @ 67 °C (G <sup>*</sup> /sindelta, 10rad/s), kPa		T315	1.0 min.	-
MSCR @ 67 °C, Jnr @3.2/kPa		T350	-	2.0
<b>NOTES:</b>		None.		