State: Virginia	**Materials:** Re: Section 210 – Asphalt Materials
Date: 4/16/2026	**Web Address:** www.dot.state.va.us
Contact: Andy Babish (Materials Engineer)	**Contact Info:** Andy.Babish@vdot.virginia.gov

Virginia		**Table 1: Requirements for Cationic Emulsified Asphalts (1)**							
Property		**Test Method AASHTO (T), or ASTM (D)**	**Quick-Setting**		**Rapid-Setting**				**Med.-Setting**	**Slow-Setting**
			CQS-1h	**CQS-1hLM**	**CRS-1**	**CRS-1h**	**CRS-2**	**CRS-2L(P)**	**CMS-2**	**CSS-1h**
EMULSIONS:										
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	AASHTO T 59 & VTM-64	20-100	20-100	-	-	-	-	-	20-100
	50 °C (122 °F)		-	-	20-100	20-100	100-400	100-400	50-450	-
Storage Stability, 24 hours, % (2)			-	-	1 max.	1 max.	1 max.	-	1 max.	1 max.
Sieve Test, % (2)			0.10 max.	-	0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.10 max.
Particle Charge			-	-	Positive	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 by Distillation, %			62 min.	-	60 min.	60 min.	65 min.	-	65 min.	57 min.
Oil Distillate, volume of emulsion,%			-	-	3 max.	3 max.	3 max.	-	12 max.	-
DISTILLATION RESIDUE:										
Penetration, 25 ºC (77 °F), dmm		T49	40-90	40-90	90-150	40-110	90-150	70-140	90-250	40-90
Ductility, 25 ºC (77 °F), cm		T51	40 min.	-	40 min.	40 min.	40 min.	-	40 min.	40 min.
Ash Content, %		T111	1 max.	-	1 max.	1 max.	1 max.	-	1 max.	1 max.
NOTES:		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.								

Virginia	Table 1 Continued: Requirements for Cationic Emulsified Asphalts								
Property	**Test Method AASHTO (T), ASTM (D), or Other**	**Quick-Setting**		**Rapid-Setting**				**Medium-Setting**	**Slow-Setting**
		CQS-1h	**CQS-1hLM**	**CRS-1**	**CRS-1h**	**CRS-2**	**CRS-2L(P)**	**CMS-2**	**CSS-1h**
EMULSIONS:									
Residue by Evaporation, %	T59	-	62 min.	-	-	-	65 min.	-	-
EVAPORATION RESIDUE:									
Penetration, 25 ºC (77 °F), tenths of mm	T49	-	40-90	-	-	-	70-140	-	-
Ring and Ball Softening Point, ºF	T53	-	140 min.	-	-	-	100 min.	-	-
Elastic Recovery, %	T301	-	-	-	-	-	50 min. (5)	-	-
NOTES:	4. Performed according to VTM-78. 5. Performed at 50 ºF.								

Virginia		Table 2: Requirements for Non-Tracking Emulsified Tack	
Property		**Test Method, AASHTO (T), ASTM (D), or Other**	**Non-tracking emulsified tack**
Tests on Emulsions:			
Viscosity, Saybolt Furol, max	77 °F, sec	T 59	150
Sieve Test, % max (plant)		T59	0.1
Sieve Test, % max (field)		T 59	0.30
Residue by Evaporation., min		T 59	50
Tests on Evaporation Residue			
Penetration, 25 ºC, 100 g, 5 sec, dmm, max		T 49	50
Softening Point, °C, min		T 53	57