State: Washington, D.C.	**Materials:** Re: Section 802 - Bituminous Materials
Date: 10/15/24	**Web Address:** www.ddot.dc.gov, http://www.state.ma.us.mhd/home
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Washington, D.C.		**Table 1: Requirements for Anionic Emulsified Asphalts for Concrete Vaults (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**
EMULSIONS:										
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T 59	20-100	-	20-100	-	-	20-100	20-100	20-100
	50 °C (122 °F)		-	75-400	-	100 min	100 min.	-	-	-
Settlement, 5 days, %			-	-	-	-	-	-	-	-
Storage Stability Test, 24 hours, % (2)			1 max.	1 max.	1 max.	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.	0.10 max.
Demulsibility, % (3)			60 min.	60 min.	-	-	-	-	-	-
Cement Mixing Test, %			-	-	-	-	-	2.0 max.	2.0 max.	-
Coating Ability and Water Resistance	Dry Aggregate		-	-	Good	Good	Good	-	-	-
	After Spraying		-	-	Fair	Fair	Fair	-	-	-
	Wet Aggregate		-	-	Fair	Fair	Fair	-	-	-
	After Spraying		-	-	Fair	Fair	Fair	-	-	-
Residue, %			55 min.	65 min.	55 min.	65 min.	65 min.	57 min.	57 min.	57 min.
DISTILLATION RESIDUE:										
Penetration, 25 ºC (77 °F), tenths of mm		T 49	90-150	90-150	90-250	90-250	40-90	90-250	40-90	40-90
Ductility, 25 ºC (77 °F), cm		T 51	40 min.	40 min.	40 min.	40 min.	40 min.	40 min.	40 min.	40 min.
Ash Content, %		T 111	1 max.	1 max.	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. The demulsibility test shall be performed within 30 days from the date of shipment. Use 35 ml, 0.02 *N* $CaCl_2$ solution.								

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Washington, D.C.		Table 2: Requirements for High Float Anionic Emulsified Asphalt for Concrete Vaults (1)					
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Rapid-Setting**	**Medium-Setting**			
			HFRS-2	**HFMS-1**	**HFMS-2**	**HFMS-2h**	**HFMS-2s**
EMULSIONS:							
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T 59	-	20-100	-	-	-
	50 °C (122 °F)		75-400	-	100 min.	100 min.	100 min.
Storage Stability Test, 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.
Demulsibility , % (3)			60 min.	-	-	-	-
Coating Ability and Water Resistance	Dry Aggregate		-	Good	Good	Good	Good
	After Spraying		-	Fair	Fair	Fair	Fair
	Wet Aggregate		-	Fair	Fair	Fair	Fair
	After Spraying		-	Fair	Fair	Fair	Fair
Residue, %			65 min.	55 min.	65 min.	65 min.	65 min.
Oil Distillate, volume of emulsion, %			-	-	-	-	1-7
DISTILLATION RESIDUE:							
Penetration, 25 ºC (77 °F), tenths of mm		T 49	100-250	90-250	90-250	40-90	250 min.
Ductility, 25 ºC (77 °F), cm		T 51	40 min.	40 min.	40 min.	40 min.	40 min.
Ash Content, %		T 111	1 max.	1 max.	1 max.	1 max.	1 max.
Float Test at 60 °C (140 °F), seconds		T 50	1200 min.	1200 min.	1200 min.	1200 min.	1200 min.
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. The demulsibility test shall be performed within 30 days from the date of shipment. Use 35 ml, 0.02 *N* $CaCl_2$ solution.					

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Washington, D.C.		Table 3: Requirements for Anionic and Cationic Emulsified Asphalts for Securing Mulch (1)							
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Anionic**	**Cationic**					
			Slow-Setting	**Rapid-Setting**		**Medium-Setting**		**Slow-Setting**		**Quick-Setting**
			SS-1	**CRS-1**	**CRS-2**	**CMS-2**	**CMS-2h**	**CSS-1**	**CSS-1h**	**CQS-1h**
EMULSIONS:										
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T 59	20-100	-	-	-	-	20-100	20-100	20-100
	50 °C (122 °F)		-	20-100	100-400	50-450	50-450	-	-	-
Settlement, 5 days, %			-	-	-	-	-	-	-	-
Storage Stability Test, 24 hours, % (2)			1 max.	1 max.	1 max.	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.	0.10 max.
Particle Charge			-	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Demulsibility , % (3)			-	40 min.	40 min.	-	-	-	-	-
Cement Mixing Test, %			2.0 max.	-	-	-	-	2.0 max.	2.0 max.	-
Coating Ability and Water Resistance	Dry Aggregate		-	-	-	Good	Good	-	-	-
	After Spraying		-	-	-	Fair	Fair	-	-	-
	Wet Aggregate		-	-	-	Fair	Fair	-	-	-
	After Spraying		-	-	-	Fair	Fair	-	-	-
Residue, %			57 min.	60 min.	65 min.	65 min.	65 min.	57 min.	57 min.	57 min.
Oil Distillate, volume of emulsion, %			-	3 max.	3 max.	12 max.	12 max.	-	-	-
pH		T 200	-	-	-	-	-	-	-	-
DISTILLATION RESIDUE:										
Penetration, 25 ºC (77 °F), tenths of mm		T 49	40-90	90-150	90-150	90-250	40-90	90-250	40-90	40-90
Ductility, 25 ºC (77 °F), cm		T 51	40 min.	40 min.	40 min.	40 min.	40 min.	40 min.	40 min.	40 min.
Ash Content, %		T 111	1 max.	1 max.	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.								

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Washington, D.C.		Table 4: Requirements for Anionic Emulsified Asphalts for Tack Coat (1)		
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Slow-Setting**	
			SS-1	**SS-1h**
EMULSIONS:				
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T 59	20-100	20-100
	50 °C (122 °F)		-	-
Settlement, 5 days, %			-	-
Storage Stability Test, 24 hours, % (2)			1 max.	1 max.
Sieve Test, % (2,3)			0.10 max.	0.10 max.
Demulsibility, % (4)			-	-
Cement Mixing Test, %			2.0 max.	2.0 max.
Coating Ability and Water Resistance	Dry Aggregate		-	-
	After Spraying		-	-
	Wet Aggregate		-	-
	After Spraying		-	-
Residue, %			57 min.	57 min.
DISTILLATION RESIDUE:				
Penetration, 25 ºC (77 °F), tenths of mm		T 49	90-250	40-90
Ductility, 25 ºC (77 °F), cm		T 51	40 min.	40 min.
Ash Content, %		T 111	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. 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* $CaCl_2$ solution.		

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