

State: Arizona	Specification: Section 1005-3.03-Emulsified Asphalt (starting on page 952)
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Arizona		Table 1: Requirements for Anionic Emulsified Asphalts			
Property		Test Method AASHTO (T), ASTM (D), or Other	Rapid-Setting		Slow-Setting
			RS-1	RS-2	SS-1
EMULSIONS:					
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	20-100	-	20-100
	50 °C (122 °F)		-	50-400	-
Settlement, 5 days, %			5 max.	5 max.	5 max.
Storage Stability Test, 24 hours, %			-	-	-
Sieve Test, % (1)			0.10 max.	0.10 max.	0.10 max.
Demulsibility, % (2)			60 min.	60 min.	-
Cement Mixing Test, %			-	-	-
Coating Ability and Water Resistance	Dry Aggregate		-	-	-
	After Spraying		-	-	-
	Wet Aggregate		-	-	-
	After Spraying		-	-	-
Residue, %		(3) & (4)	55 min.	63 min.	57 min.
Oil Distillate, volume of emulsion, %		T59	-	-	-
DISTILLATION RESIDUE:					
Penetration, 25 °C (77 °F), tenths of mm		T49	-	-	-
Ductility, 25 °C (77 °F), cm		T51	-	-	-
Solubility in trichloroethylene, %		T44	-	-	-
NOTES:		1. Distilled water will be used instead of the 2% sodium oleate solution. 2. Use 35 ml, 0.02 N CaCl ₂ solution. 3. Residue will be obtained in accordance with the requirement of Arizona Test Method 504 and shall conform to all the requirements of AASHTO M 320 for PG 64-16, except that for CRS-2 the dynamic shear (G*/sin δ) on the original residue shall be a minimum of 1.00 kPa and a maximum of 1.50 kPa.			

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| | <ol style="list-style-type: none">4. Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T 59 will be used. |
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Arizona		Table 2: Requirements for Cationic Emulsified Asphalts			
Property		Test Method AASHTO (T), ASTM (D), or Other	Rapid-Setting		Slow-Setting
			CRS-1	CRS-2	CSS-1
EMULSIONS:					
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	-	-	20-100
	50 °C (122 °F)		20-100	50-400	-
Settlement, 5 days, %			5 max.	5 max.	5 max.
Storage Stability Test, 24 hours, %			-	-	-
Sieve Test, % (1)			0.10 max.	-	0.10 max.
Particle Charge			Positive	Positive	Positive (2)
Demulsibility, %			-	-	-
Cement Mixing Test, %			-	-	-
Coating Ability and Water Resistance	Dry Aggregate		-	-	-
	After Spraying		-	-	-
	Wet Aggregate		-	-	-
	After Spraying		-	-	-
Residue, %		(3) & (4)	60 min.	65 min.	57 min.
Oil Distillate, volume of emulsion, %		T59	-	-	-
pH		T200	-	-	-
Classification: Uncoated particles, %		Ariz. 502	-	55 min.	-
DISTILLATION RESIDUE:					
Penetration, 25 °C (77 °F), tenths of mm		T49	-	-	-
Ductility, 25 °C (77 °F), cm		T51	-	-	-
Solubility in trichloroethylene, %		T44	-	-	-
FOR TABLE 2 NOTES, SEE PAGE 3.					
TABLE 2 NOTES:		1. Distilled water will used instead of the 2% sodium oleate solution. 2. If the Particle Charge Test is inconclusive, material having a maximum pH value of 6.7 will be acceptable.			

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| | <ol style="list-style-type: none">3. Residue will be obtained in accordance with the requirement of Arizona Test Method 504 and shall conform to all the requirements of AASHTO M 320 for PG 64-16, except that for CRS-2 the dynamic shear ($G^*/\sin \delta$) on the original residue shall be a minimum of 1.00 kPa and a maximum of 1.50 kPa.4. Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T 59 will be used. |
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Table 3: Requirements for Polymerized Cationic Rapid-Setting Emulsified Asphalt (1)

Property		Test Method AASHTO (T), ASTM (D), or Other	CRS-2p
EMULSIONS:			
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	-
	50 °C (122 °F)		100-400
Settlement, 5 days, %			-
Storage Stability Test, 24 hours, %			1 max.
Sieve Test, %			0.10 max.
Particle Charge			Positive
Demulsibility, % (2)			40 min.
Cement Mixing Test, %			-
Ash Content, %			D3723
Residue, %		T59	66 min.
Oil Distillate, volume of emulsion, %			0.50 max.
DISTILLATION RESIDUE:			
Penetration, 25 °C (77 °F), tenths of mm		T49	40-100
Ductility, 4 °C (77 °F), cm (3)		T51	35 min.
Elastic Recovery, % (77 °F) (4)		T301	55 min.
NOTES:		1. The introduction of polymer must occur before emulsification. 2. Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution. 3. Use pull rate of 1 cm/minute. 4. Testing shall be performed on residue by distillation, not on residue by oven evaporation.	

Arizona		Table 4: Requirements for Polymerized High Float Emulsified Asphalt (1)		
Property		Test Method AASHTO (T), ASTM (D), or Other	HFE-150p	HFE-300p
EMULSIONS:				
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	-	-
	50 °C (122 °F)		50-400	50-400
Storage Stability Test, 24 hours, %			1 max.	1 max.
Sieve Test, % (2)			0.10 max.	0.10 max.
Residue, % (400 °F)			65 min.	65 in.
Oil Distillate, volume of emulsion, % (350 °F)			7.0 max.	7.0 max.
DISTILLATION RESIDUE:				
Penetration, 25 °C (77 °F), tenths of mm		T49	150-300	300+
Ductility, 25 °C (77 °F), cm (3)		T51	100 min.	-
Elastic Recovery, 4 °C % (4)		T301	25 min.	25 min.
Float Test at 60 °C (140 °F), seconds		T50	1200 min.	1200 min.
NOTES:		1. The introduction of polymer must occur before emulsification. 2. Distilled water will be used instead of 2% sodium oleate solution. 3. Use pull rate of 5 cm/minute. 4. Testing shall be performed on residue by distillation, not on residue by oven evaporation.		

Arizona		Table 5: Emulsified Recycling Agents				
Property		Test Method AASHTO (T), ASTM (D), or Other	ERA-1	ERA-5	ERA-25	ERA-75
EMULSIONS:						
Viscosity, Saybolt Furol seconds	25 °C (77 °F)	T59	15-40	15-100	15-100	15-100
	50 °C (122 °F)		-	-	-	-
Miscibility			Pass	Pass	Pass	Pass
Sieve Test, % (1)			0.10 max.	0.10 max.	0.10 max.	0.10 max.
Particle Charge			Positive	Positive	Positive	Positive
Residue, %		See notes (2) & (3)	60 min.	60 min.	60 min.	60 min.
NOTES:		1. Distilled water will be used instead of 2% sodium oleate solution. 2. Residue will be obtained in accordance with the requirements of Arizona Test Method 504 and shall conform to all requirements specified in Table 1005-4. 3. Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T59 will be used.				