State: Nevada	**Specification:** Section 703 Bituminous Materials (starting on page 475)
Date: 10/30/2025	**Web Address:** http://www.nevadadot.com/uploadedFiles/NDOT/About_NDOT/NDOT_Divisions/Engineering/Specifications/2001StandardSpecifications.pdf
Contact: Changlin Pan	**Contact Info:** CPan@dot.nv.gov

Nevada		**Table 1: Requirements for Anionic Emulsified Asphalts**			
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Slow-Setting**		**Tolerance**
			SS-1	**SS-1h**	
EMULSIONS:					
Viscosity, Rotational Paddle @ 25° C (77° F), mPa-s		Nev. T762	45-220	45-220	-
Settlement, 5 days, %		Nev. T759	-	-	-
Storage Stability Test, 24 hours, %			1.0 max.	1.0 max.	0.5
Sieve Test, %			0.10 max.	0.10 max.	0.03
Demulsibility, %			-	-	-
Cement Mixing Test, %			2.0 max.	2.0 max.	0.2
Residue, %			57 min.	57 min.	1.0
Oil Distillate, volume of emulsion, %			-	-	-
DISTILLATION RESIDUE:					
Penetration, 25º C (77° F), tenths of mm		Nev. T759	100-200	40-90	7.0%
Ductility, 25º C (77° F), cm		T51	40 min.	40 min.	10%
Solubility in n-propyl bromide, %		T44	97.5 min.	97.5 min.	0.10
DILUTED EMULSION:					
Residue, %	70:30	Nev. T759	40 min.	40 min.	1.0
	60:40		34 min.	34 min.	1.0
	50:50		29 min.	29 min.	1.0
NOTES:		None.			

Nevada		Table 2: Requirements for Cationic Emulsified Asphalts								
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Slow-Setting**		**Medium-Setting**	**Rapid-Setting**	**Quick-Setting**			**Tolerance**
			CSS-1	**CSS-1h**	**CMS-2s**	**CRS-2nv**	**CQS-1nv**	**CQS-TRnv (4)**	**CQS-1h**	
EMULSIONS:										
Viscosity, Rotational Paddle, mPa-s	25°C (77°F)	Nev. T762	45-220	45-220	-	-	45-220	45-220	45-220	-
	50°C (122°F)		-	-	110-1020	425-1200	-	-	-	-
Settlement, 5 days, %		Nev. T759	-							
Storage Stability Test, 24 hours, %			1.0 max.	1.0 max.	1.0 max.	1.0 max.	-		-	0.5
Sieve Test, %			0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.03
Particle Charge			Pass	Pass	-	Pass	Pass	Pass	Pass	-
Demulsibility, %	(1)		-	-	-	40 min.	-		-	5%
Cement Mixing Test, %			2.0 max.	2.0 max.	-	-	25 min. (2)	25 min. (2)	-	- (3)
Residue, %			57 min.	57 min.	60 min.	65 min.	57 min.	57 min.	57 min.	1.0
Oil Distillate, volume of emulsion, %			-	-	5.0-15.0	3 max.	-		-	-
pH		ASTM E70	-	-	2.0-5.0	-	-		-	-
DISTILLATION RESIDUE:										
Penetration, 25º C (77°F), tenths of mm		Nev. T759	100-250	40-90	100-250	60-100	40-90	40-90	40-90	7.0%
Ductility, 25º C (77°F), cm		T51	40 min.	40 min.	-	40 min.	40 min.	40 min.	40 min.	10%
Solubility in n-propyl bromide, %		T44	97.5 min.	97.5 min.	97.5 min.	97.5 min.	97.5 min.	97.5 min.	97.5 min.	0.10
DILUTED EMULSION:										
Residue, %	70:30	Nev. T759	40 min.	40 min.	-	-	40 min.	40 min.	40 min.	1.0
	60:40		34 min.	34 min.	-	-	34 min.	34 min.	34 min.	1.0
	50:50		29 min.	29 min.	30 min.	-	29 min.	29 min.	29 min.	1.0

NOTES:

1. Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution.
2. If the amount of breakage is significant enough to impede the flow of water through the testing screen, thus making it impossible to calculate a result, the test will be considered passing.
3. For CSS-1 and CSS-1h, tolerance is 0.2.
4. Certificates of compliance provided for the material shall certify that the minimum rubber content (5.0 %) is present.

Nevada		Table 3: Requirements for Polymer Modified Pavement Sealants		
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**PMPS-h**	**Tolerance**
EMULSIONS:				
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	-	-
	50° C (122° F)		425-1200	-
Sieve, %		Nev. T759	0.10 max.	0.03
Particle Charge			-	-
Residue, %			65 min.	1.0
Oil Distillate, volume of emulsion, % (1)			0.5 max.	-
pH		ASTM E70	4.0 max	-
RESIDUE FROM EVAPORATION:				
Penetration @ 4° C (39.2° F), tenths of mm (2)		Nev. T759	20-70	7.0%
Elastic Recovery	@ 25° C (77° F), %	T301	60 min.	-
NOTES:		1. Reduce the temperature on the lower thermometer to 177 ± 5° C (350 ± 10° F) and maintain the temperature for 20 minutes. 2. 200g, 60 seconds		

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Nevada	Table 3 (continued): Requirements for Polymer Modified Pavement Sealants		
Property	**Test Method AASHTO (T), ASTM (D), or Other**	**PMPS-h**	**Tolerance**
EMULSIONS:			
Viscosity, Rotatonal Paddle @ 50°C (122°F), mPa·s	Nev. T762	425-1200	-
Residue, %	Nev. T759	65 min.	1.0
pH	ASTM E70	4.0 max.	-
Sieve, %	Nev. T759	0.1 max.	0.03
Oil Distillate, % (1)	Nev. T759	0.5 max.	-
RESIDUE FROM EVAPORATION:			
Penetration @ 4°C (39.2°F), 200 g, 60 sec	Nev. T759	20-70	7.0%
Elastic Recovery @ 25°C (77°F), %	AASHTO T301	60 min.	-
LATEX:			
Specific Gravity	D1475	1.08-1.15	-
Tensile Strength, die C dumbbell, psi (2)	D412	500 min.	-
Swelling in rejuvenating agent, %, 48 hour exposure @ 104° F	Nev. T747	40% max. intact film	-
REJUVINATING AGENT:			
Kinematic Viscosity @ 60° C, mm^2/s (140° F, cSt)	T201	50-175 (50-175)	2%
Flash Point, ° C (° F)	T48	193 min (380 min.)	8° C (15° F)
Saturate, %	D2007	30 max.	-
Asphaltenes, %		1.0 max.	-
Weight Change, %	T240	6.5 max.	-
Viscosity Ratio		3.0 max.	-
NOTES:	1. Reduce the temperature on the lower thermometer to 177 ± 5 °C (350 ± 10 °F) and maintain this temperature for 20 minutes. 2. Samples for tensile strength in accordance with ASTM D412 shall be cut using a die dumbbell at a crosshead speed of 20cm/min.		

Nevada		Table 4: Requirements for Micro-Surfacing Emulsions			
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Micro-Surfacing**		**Tolerance**
			MSE	**MSE-h**	
EMULSIONS:					
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	45-220	45-220	-
	50° C (122° F)		-	-	
Storage Stability Test, 24 hours, %		Nev. T759	1.0 max	1.0 max.	0.5
Sieve, %			0.30 max.	0.30 max.	0.03
Particle Charge			Pass	Pass	-
Residue, %			64 min.	64 min.	1.0
Polymer Content, % by mass of residual asphalt		(1)	3.5 min.	3.5 min.	-
RESIDUE FROM EVAPORATION:					
Penetration @ 25° C (77° F), tenths of mm		Nev. T759	40-90	35-55	7% (2)
Ductility @ 25° C (77° F), cm		T51	60 min.	60 min.	10%
Softening Point, ° C (° F)		T53	60 (140) min.	60 (140) min.	-
Torsional Recovery		Nev. T757	25 min.	25 min.	-
NOTES:		1. Certificates of compliance provided for the material shall certify that the minimum polymer content is present. 2. 7% tolerance only applies to MSE. No tolerance for MSE-h.			

Nevada		Table 5: Requirements for Latex Modified Emulsified Asphalts		
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**Rapid-Setting**	**Tolerance**
			LMCRS-2h	
EMULSIONS:				
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	-	-
	50° C (122° F)		425-1200	
Storage Stability Test, 24 hours, %		Nev. T759	1 max.	0.5
Sieve, %			0.30 max.	0.03
Particle Charge			Pass	-
Demulsibility, %			40 min.	5
Residue, %			65 min.	1.0
RESIDUE FROM EVAPORATION:				
Penetration @ 25° C (77° F), tenths of mm		Nev. T759	40-90	7%
Ductility @ 25° C (77° F), cm		T51	40 min.	10%
Torsional Recovery		Nev. T757	22 min.	-
NOTES:		None.		

Nevada		Table 6: Requirements for Emulsified Asphalts with Rejuvenates		
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**PMRE-h**	**Tolerance**
EMULSIONS:				
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	-	-
	50° C (122° F)		425-1200	
Sieve, %		Nev. T759	0.1 max.	0.03
Residue, %			65 min.	1.0
Oil Distillate, volume of emulsion, % (1)			0.5 max.	-
pH		ASTM E70	4.0 max.	-
RESIDUE FROM EVAPORATION:				
Penetration @ 25° C (77° F), tenths of mm		Nev. T759	70-120	7%
Ductility @ 25° C (77° F), cm		Nev. T746	30 min.	-
Torsional Recovery		Nev. T757	30 min.	-
Softening Point, ° C (° F)		T53	54.5 min. (130 min.)	1° C (2° F)
TESTS ON REJUVENATOR:				
Kinematic Viscosity @ 60° C, mm^2/s (140° F, cSt)		T201	50-175 (50-175)	2%
Flash Point, °C (°F)		T48	193 min. (380 min.)	8°C (15°F)
Saturate, %		D2007	30 max.	-
Asphaltenes, %			1.0 max.	-
Weight Change, %		T240	6.5 max.	-
Viscosity Ration			3.0 max.	-
NOTES:		1. Reduce the temperature on the lower thermometer to 177 ± 5° C (350 ± 10° F) and maintain the temperature for 20 minutes.		

Nevada		Table 7: Requirements for QSE and QSRE Emulsified Asphalts			
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**QSE**	**QSRE**	**Tolerance**
EMULSIONS:					
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	65-330	65-330	-
	50° C (122° F)		-	-	-
Sieve, %		Nev. T759	0.10 max.	0.10 max.	0.03
Storage Stability, 24-hr, %			1.0 max.	-	0.5
Residue, %			65 min.	65 min.	1.0
Oil Distillate, volume of emulsion, % (1)			0.5 max.	0.5 max.	-
pH		ASTM E70	4.0 max	4.0 max	-
Tests on Diluted Emulsions	Residue, 60% and 40%	Nev. T759	39 min.	39 min.	1.0
	Residue, 50% and 50%		33 min.	33 min.	1.0
RESIDUE FROM EVAPORATION:					
Penetration @ 25° C (77° F), tenths of mm (3)		Nev. T759	40 max.	45 max.	7.0%
Asphaltenes, %		ASTM D2007	24 min.	24 min.	-
Softening Point, ° C (° F)		T53	57 min. (135 min.)	54.5 min. (135 min.)	1° C (2° F)
Tests on Rejuvenating Agent:					
Kinematic Viscosity @ 60° C, mm^2/s (140° F, cSt)		AASHTO T201	-	50-175	2%
Flash Point, °C (°F)		AASHTO T48	-	380 min.	15 °C
Saturate, %		ASTM D2007	-	30 max.	None
Asphaltenes, %		ASTM D2007	-	1.0 max.	None
Weight Change, %		AASHTO T240	-	6.5 max.	None
Viscosity Ratio		AASHTO T240	-	3.0 max.	None
NOTES:					

Nevada		Table 8: Requirements for Polymer Modified Membrane Emulsified Asphalts		
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**PMM**	**Tolerance**
EMULSIONS:				
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	45-220	-
	50° C (122° F)		-	
Storage Stability Test, 24 hours, %		Nev. T759	1 max.	0.5
Sieve, %			0.10 max.	0.03
Residue, %			63 min.	1.0
RESIDUE FROM EVAPORATION:				
Penetration @ 25° C (77° F), tenths of mm		Nev. T759	60-150	7%
Elastic Recovery @ 10° C (50° F) %		AASHTO T301	58 min.	-
Solubility in n-propyl bromide, %		T44	97.5 min.	0.10
NOTES:		None.		

Nevada		Table 9: Requirements for Latex Modified Emulsified Asphalts		
Property		**Test Method AASHTO (T), ASTM (D), or Other**	**PMCQS-1nv (1)**	**Tolerance**
EMULSIONS:				
Viscosity, Rotational Paddle, mPa-s	25° C (77° F)	Nev. T762	45-220	-
	50° C (122° F)		-	
Storage Stability Test, 24 hours, %		Nev. T759	1 max.	0.5
Sieve, %			0.30 max.	0.03
Particle Charge			Pass	-
Residue, %			64 min.	1.0
RESIDUE FROM EVAPORATION:				
Penetration @ 25° C (77° F), tenths of mm		Nev. T759	40-90	7%
Ductility @ 25° C (77° F), cm		T51	40 min.	10%
Torsional Recovery		Nev. T757	22 min.	-
Softening Point, ° C (° F)		T53	60 (140) min.	-
NOTES:		1. Certificates of compliance provided for the material shall certify that the minimum polymer content (3.0%) is present.		