State: Nebraska	**Materials:** Re: Section 503 Performance Graded Binder
Date Last Reviewed: 2/24/2025	**Web Address:** dot.nebraska.gov
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Asphalt Binder		
Section 503	Highlights	Nebraska DOT is a member of the Combined States Binder Group. Performance Graded (PG) binder shall conform to the requirements of AASHTO M332 Table 1. PG binder shall also conform to the Department PG+ specifications (Table 1029.01) when classified as a modified binder. All specified binders with a UTI of 92°C or greater, shall be defined as modified.
Section 503.6.e.2	PMA Notes	The binder shall incorporate a blend of base asphalt and the use of the elastomer modifiers styrene-butadiene (SB), styrene-butadiene-styrene (SBS), or styrene-butadiene-rubber (SBR). - Polyphosphoric Acid (PPA) may be used as an additional modifier to elastomer modifiers and shall not exceed 0.50% maximum PPA addition (by weight of binder). The total phosphorous content of the PPA modified PG Binder shall not exceed 1900 ppm. The total phosphorous content shall be determined as per ASTM D1091, ASTM D6443, or ASTM D6481. - Crumb rubber may be used as an additional modifier to elastomer modifiers. If crumb rubber is used: (i) Paragraph 5.4 (solubility) of AASHTO M332 is then void. (ii) Paragraph 5.5 (micron requirement) of AASHTO M332 is then void.
	Exclusions and Limits	

Nebraska		**Table 1: PG Requirements for Performance-Graded Asphalt Binders** (Note 2)				
Property		**Test Method: AASTHO (T), ASTM (D) or other**	**Requirements by Performance Grade (2)**			
			58S-34	**58H-34**	**58V-34**	**58E-34**
ORIGINAL						
Flash Point, ° C		T48	230 min.			
Rotational Visc., Pa·s	135° C	T316	3.0 max.			
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec)	At Grade Temp.	T315	1.00 min.			
Specific Gravity	15.6° C	D70	Report			
RTFO RESIDUE		T240				
Mass Change, %		T240	1.00 max.			
MSCR, $J_{nr3.2}$, max., kPa^{-1}	58° C (Note 1)	T350	4.5	2.0	1.0	0.5
MSCR, % Recovery $_{3.2\,Kpa}$, min.		M332	-	30	55	75
MSCR, Jnr difference, %			-			
PAV RESIDUE		R28	100° C, 20 hrs, 300 psi			
Dynamic Shear, kPa (G* · sin δ, 10 rad./sec.)	At Test Temp.	T315	16° C			
			5000 max.	6000 max.		
Creep Stiffness, MPa	At Test Temp.	T313	-24° C			
			300 max.			
M-Value			0.300 min.			
-NOTES		1. MSCR test shall be run on a new sample pellet, not the dynamic shear sample pellet. 2. Requirements in addition to M332 are shown in red.				

To ensure the most accurate and current information, the specific agency should be contacted.

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