State: Tennessee	**Materials:** Re: Subsection 904.01; see also 900SS.
Date Last Reviewed: 4/16/2026	**Web Address:** https://www.tn.gov/tdot/tdot-construction-division/transportation-construction-division-resources/transportation-construction-2015-standard-specifications.html
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Asphalt Binder		
Section 904.01	Highlights	Asphalt binder shall conform to AASHTO M 320 for all grades. In addition, all grades shall also meet some requirements of M 332. As shown below under "RTFO Residue", all grades shall meet Jnr 3.2 and Jnr diff criteria except Jnr diff is waived anytime Jnr 3.2 is less than 0.5. Jnr diff criteria is also waived for PG 76-22 and PG 82-22. Polymer modified grades must meet the MSCR Recovery criteria based on the curve in AASHTO R92 (except PG70-22, which only is required to have %R>29%).
	PMA Notes	Modification of the asphalt shall be accomplished by properly blending styrene-butadiene (SB), styrene-butadiene-styrene (SBS), styrene-butadiene-rubber (SBR), ground tire rubber (GTR), or a combination thereof to either a PG 64-22 or PG 67-22 base asphalt. GTR shall be Class 30-1.
	Exclusions and Limits	PPA may be used up to max 0.5% by weight of asphalt binder and may only be used when SBS is the primary modifier. Use of Re-refined Engine Oil Bottoms (REOB) or Vacuum Tower Asphalt Extender (VTAE) is prohibited
PG Asphalt Cement Certified Supplier Requirements	SOP 3-1	Effective January 1, 2026, Report (info only): Glover-Rowe Parameter, AASHTO T-315 tested at 10 rad/s and 25°C (20 hour PAV): $GRP=G^* \times \cos 2\delta / \sin \delta$ And R-Value, AASHTO T-313 tested at -12°C: where $R=\log(2) \times \log(S/3000)/\log(1-m)$

Tennessee		Requirements for Performance Graded Asphalt Binders						
Property		**Test Method, AASHTO (T), ASTM (D), or Other**	**64-22**	**67-22**	**70-22**	**76-22**	**82-22**	
Original Binder								
Flash Point, °C		T 48	230 min.					
Rotational Viscosity,	135 °C, sec	T 316	3.0 max.					
Dyanmic Shear, kPa (G*/sin δ, 10 rad./sec)	At Grade Temperature	T 315	1.00 min.					
Specific Gravity	15.6 °C	D 70	Report					
RTFO Residue		**T 240**						
Mass Change, %		T 240	1.0 max.					
Dyanmic Shear, kPa (G*/sin δ, 10 rad./sec)	At Temperatrure Grade	T 315	2.20 in.					
MSCR, Jnr $_{3.2\ kPa}$, kPa^{-1} (2)	64 °C	T59/ D6997	4.5 max.	4.5 max.	1.0 max.	0.5 max.	0.5 max.	
MSCR, % Recovery $_{3.2\ kPa}$			-	-	29 min	(Note 1)	(Note 1)	
MSCR, Jnr Diff., %			75 Max.	75 Max.	75 Max (2)	N/a	N/A	
PAV Residue		**R 28**	**100 C, 20 hrs., 300 psi**					
Dyanmic Shear, kPa (G* sin δ, 10 rad./sec)	at Test Temperature	T 315	25°C	26.5°C	28°C	31°C	34°C	
			6,000 max (3)		6,000 max.			
Creep Stiffness, Mpa	- 12 °C	T 313	300 max.					
M-Value			0.300 min.					
Notes		**1. PG 76-22 and PG 82-22 grade asphalts shall meet the requirements for Indication of Elastic Response as defined in AASHTO R 92. 2. Shall be waived if Jnr (3.2 kPa) is equal to or less than 0.5 3. If the intermediate temperature stiffness G* sin δ is less than 5,000 kPa, the minimum phase angle requirement is not required. If the intermediate G* sin δ is less than 6,000 kPa, the minimum phase angle requirement is 42 degrees**						

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