

State: Georgia	Materials: Re: Section 820 - Asphalt Cement
Date Last Reviewed: 8/13/25	Web Address: www.dot.state.ga.us
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Asphalt Binder		
Section 820.01	Highlights	Asphalt binder requirements follow M 320 except where noted otherwise. Modified binders (PG 76-22) include M 332 (MSCR) but continue to use M 320 grade designation. Ensure modified asphalts meet the requirements shown under "PMA Notes" and are homogeneously blended to produce uniform asphalt binders meeting the specifications shown in Table 1 for PG 76-22.
	PMA Notes	Add Styrene-Butadiene-Styrene (SBS) or Styrene-Butadiene (SB) to neat asphalt to produce a binder meeting the requirements for PG 76-22 when roadway ADT is equal to or greater than 100,000 for Stone Matrix Asphalt and Porous European Mix (PEM) or Open Graded Friction Course (OGFC) Mixtures. Styrene Butadiene Rubber (SBR) or Crumb rubber modified PG 76-22 is an acceptable alternative to SBA or SB modified asphalt cement at contractor's discretion, when roadway ADT is less than 100,000, provided the SBR or crumb rubber modified asphalt cement meets the tests' requirements of PG 76-22. For SBR modified PG 64-22 or PG 67-22 to meet PG 76-22, use only SBR currently approved on QPL-65 "Georgia's List of Approved Latex Suppliers". For crumb rubber modified PG 64-22 or PG 67-22 to meet PG 76-22, use 30 mesh size ambient or cryogenic ground tire rubber at a minimum 10% of weight of total asphalt cement content. Ensure Trans-Polyoctenamer is added at 4.5% of the weight of the crumb rubber to achieve better particle distribution. Varying percentage blends of crumb rubber and approved additives may be used, at the discretion of the Office of Materials and Research, provided the end product meets all specified requirements of PG 76-22 including Phase Angle. Ensure the end product is homogeneous and shows no separation or coagulation. Percentage of ambient or cryogenic ground tire rubber is neat asphalt source dependent to meet specification requirements for PG 76-22. The maximum Phase angle requirement is not applicable to the crumb rubber modified PG 76-22 incorporating ≥ 10% crumb rubber with approved additive equivalent to 4.5% of crumb rubber.
	Exclusions and Limits	Air-blown materials are strictly prohibited. <0.5% acid (including Polyphosphoric Acid (PPA)) allowed when approved by the office of materials. Liquid antistripping agent (LASA) only allowed for asphalt used in the following: non-interstate projects, <25,000 vehicles per day, mixtures containing 20% RAP
Requirements on next page		

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



Georgia		Table 1: Requirements for Performance-Graded Asphalt Binders (Note 10)				
Property		Test Method:	Requirements by Performance Grade			
			58-22	64-22	67-22	76-22 (Note 5)
ORIGINAL						
Flash Point, ° C		T48	230 min.			
Rotational Viscosity, Pa·s (1)	135° C	T316	3.0 max.			
Dynamic Shear, kPa ($G^*/\sin \delta$, 10 rad./sec)	At Grade Temp.	T315	1.00 min.			
Phase Angle, °						75 max
Separation of Polymer, ° C (° F)	(5)	D7173	-		10 (18) max.	
RTFO RESIDUE						
Mass Change, % (2)		T240	0.50 max. (See Note 4)			
Dynamic Shear, kPa ($G^*/\sin \delta$, 10 rad./sec.)	At Grade Temp.	T315	2.20 min.			
MSCR, $J_{nr3.2}$, max., kPa^{-1} (6,7,8,9)	64° C	T350	-			1.0 max.
MSCR, % Recovery (6,7,8,9)						
PAV RESIDUE						
Dynamic Shear, kPa ($G^* \cdot \sin \delta$, 10 rad./sec.)		T315	100° C, 20 hrs, 2.1 MPa			
	At Test Temp.		22° C	25° C	26.5° C	31° C
			5000 max.			
Creep Stiffness, MPa (3)	At Test Temp.	T313	-12° C			
				300 max.		
M-Value			0.300 min.			
Direct Tension, % Strain	At Test Temp.	T314	-12° C			
			Report			
Notes		<ol style="list-style-type: none"> The Department may waive this requirement if the supplier warrants the asphalt binder can be adequately pumped and mixed at temperatures meeting all applicable safety standards. Heat loss by AASHTO: T 179 may be accepted in lieu of mass loss by AASHTO: T 240. If the creep stiffness is below 300,000 kPa, the direct tension test is not required. If the creep stiffness is \geq300,000 kPa, report the Direct Tension Failure Strain value. Satisfy the m-value requirement in either case. The maximum Mass Loss shall be \leq 1%, when used in conjunction with Bituminous Surface Treatment (Section 424). Polymer Separation Test is performed by the Department for SBR and crumb rubber modified 76-22. MSCR requirement is applicable to the SBR, Crumb Rubber & TOR (or other OMR approved additive) combination modified PG 76-22 asphalt cement. Additionally, ensure the materials meet all PG 76-22 requirements except for phase angle as detailed in sub-section 820.2.01.A.2. Ensure MSCR requirement for Average Percent Recovery at 3.2 kPa is > 35% for laboratory or terminally blended PG 64-22 or PG 67-22 modified using SBR or GTR to meet PG 76-22 requirements. PG 64-22 or PG 67-22 modified to meet PG 76-22 using crumb rubber, via dry method, will be evaluated using complete analysis for compliance with PG 76-22 requirements prior to mixture production using laboratory blended materials. PG 64-22 or PG 67-22 modified to meet PG 76-22 using crumb rubber via dry method, will be evaluated for compliance with original DSR testing requirements for PG 76-22 during mixture production using abson recovery in accordance with GDT 119 in compliance with AC sampling frequencies established in GSP 21 sub-section A.9. PG 64-22 or PG 67-22 modified to meet PG 76-22 using crumb rubber, via the dry method, will be evaluated for MSCR (Jnr @ 3.2 kPa) requirements, in accordance with GDT 119, on AC samples obtained for project assurance at frequencies established in GSP 21 sub-section A.9. Requirements in addition to M320 or M332 are shown in red. 				

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