State: North Carolina	**Materials:** Re: Section 1020-2 - Asphalt Binder
Date Last Reviewed: 8/13/25	**Web Address:** www.dot.state.nc.us
Materials Engineer: Todd Whittington	**Contact Info:** twhittington@ncdot.gov

Asphalt Binder		
Section 1020-02	Highlights	NCDOT has been evaluating the use of MSCR since January 2011 through participation in the SEAUPG MSCR Task Force. Decision was made to adopt the use of MSCR Recovery for modified grades only to replace Elastic Recovery test (and phase angle) regionally by SEAUPG states on January 1 2015 and NCDOT is considering implementation. SEAUPG established regional test temperatures and NC will be 64°C. NCDOT has not yet made a decision on the implementation of AASHTO M332 (MSCR).
	PMA Notes	SBS, SB, and SBR are allowed.
	Exclusions and Limits	Binder containing acid, motor oil, air blown or REOB/VTAE are not allowed. Beginning in 2024, NCDOT requires additives (anti-strips, warm-mix, and recycling agents) to undergo FTIR fingerprinting to provide a way to verify the additive used in the field matches the one on the approved list.

North Carolina		**Table 1: Requirements for Performance-Graded Asphalt Binders** (Notes 1,2)				
Property		**Test Method: AASTHO (T), ASTM (D) or other**	**Requirements by Performance Grade**			
			64-22	**58-28**	**70-28 (PM)**	**76-22**
ORIGINAL						
Flash Point, ° C		T48	230 min.			
Rotational Viscosity, Pa·s	135° C	T316	3.0 max.			
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec)	At Grade Temperature	T315	1.00 min.			
Specific Gravity	15.6° C	D70	Report			
RTFO RESIDUE		T240				
Mass Change, %		T240	1.00 max.			
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec.)	At Grade Temperature	T315	2.20 min.			
PAV RESIDUE		R28	100° C, 20 hrs, 300 psi			
Dynamic Shear, kPa (G* · sin δ, 10 rad./sec.)	At Test Temperature	T315	25°C	19°C	25°C	31°C
			5000 max.			
Creep Stiffness, MPa	At Test Temperature	T313	-12°C	-18°C	-18°C	-12°C
			300 max.			
M-Value			0.300 min.			
NOTES		1. Requirements in addition to M320 are shown in red. 2. All binders: The high temperature true grade of the original material and RTFO residue must be within 5.9C above the high temperature of the grade.				

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