

State: Massachusetts	Materials: Re: Section M3.01.0 - Performance Graded Asphalt Binder
Date Last Reviewed: 4/1/24	Web Address: www.mass.gov/lists/construction-specifications
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Asphalt Binder		
Section M3.01.0	Highlights	MassDOT implemented AASHTO M332 (MSCR) for modified grades in 2017. MSCR recovery is specified using the curve in AASHTO R92.
	PMA Notes	Elastomeric polymers.
	Exclusions and Limits	Currently exclusions of all additions unless approved by Department.

Massachusetts		Table 1: Requirements for Performance-Graded Asphalt Binders			
Property	Test Method: AASHTO	Requirements by Performance Grade			
		52-34 (Note 1)	58-28 (Note 1)	64-28	64E-28
ORIGINAL					
Flash Point, °C	T 48	230 min.			
Specific Gravity	15.6°C T 228	Report			
Rotational Viscosity, Pa·s	135°C T 316	3.0 max.			
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec)	At Grade Temp. T 315	1.00 min.			
RTFO RESIDUE					
Mass Change, %	T 240	1.00 max.			
MSCR Test temp., °C		52	58	64	
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec)	T 315	2.20 min.			
MSCR Jnr _{3.2} , max., kPa ⁻¹					0.5
MSCR, Jnr _{diff} , max., %	T 350				75 max. (Note 2)
MSCR, % recovery @ 3.2kPa, min.					(Note 3)
PAV RESIDUE					
DSR Test Temperature, °C		90° C, 20 hrs, 300 psi	100° C, 20 hrs, 300 psi		
DSR Test Temperature, °C	T 315	13	19	22	
Dynamic Shear, kPa (G*· sin δ, 10 rad./sec.)		6000 max. δ min. 42° (Note 4)			6000 max.
BBR Test Temperature, °C		-24		-18	
Creep Stiffness, MPa	T 313	300 max.			
M-Value		0.300 min.			
NOTES	<ol style="list-style-type: none"> 1. This binder shall be utilized in mixtures that contain higher amounts of recycled materials to account for the amount and stiffness of the recycled binder in accordance with Table M3.01.3-1. 2. Not applicable for binders with Jnr_{3.2} < 0.5 kPa⁻¹. 3. >29.371*(Jnr_{3.2}^{0.263}) - binder grade E must meet the requirements of AASHTO R 92. 4. If G* sin δ is below 5000 the phase angle minimum limit is not required . 				

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