

State: Vermont	Materials: Re: Section 702.01 - Performance Graded Asphalt Binder
Date Last Reviewed: 4/1/24	Web Address: www.vtrans.vermont.gov
Materials Engineer: Nick Van Den Berg, P.E.	Contact Info: NickVanDenBerg@vermont.gov

Asphalt Binder		
Section 702.01	Highlights	Asphalt binder shall be homogenous, uniformly mixes, and blended liquid bituminous materials that are free of contaminants such as water, fuel oils, or other solvents, and shall not foam when heated to 350°F. Neat asphalt shall be asphalt prepared solely by the refining of crude petroleum.
	PMA Notes	Asphalt binder may be modified only with the addition of SBS polymer modifiers and low temperature modifiers.
	Exclusions and Limits	Asphalt binder shall not contain re-refined engine oil bottoms, vacuum tower asphalt extenders or other modifiers produced from recycled petroleum products.

Vermont		Table 1: Requirements for Performance-Graded Asphalt Binders									
Property		Test Method: AASHTO	Requirements by Performance Grade								
			58S-34	58H-34	58V-34	58E-34	58S-28	58H-28	58V-28	58E-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		T 240									
Mass Change, %		T 240	1.00 max.								
MSCR Test temp., °C			58								
MSCR J _{nr3.2} , max., kPa ⁻¹		T 350	4.5	2.0	1.0	0.5	4.5	2.0	1.0	0.5	
MSCR, J _{nr diff} , max., %			75 max. (Note 1)								
MSCR, % recovery @ 3.2kPa, min.			(Note 2)								
PAV RESIDUE		R 28	100° C, 20 hrs, 300 psi								
DSR Test Temperature, °C			16				19				
Dynamic Shear, kPa (G* · sin δ, 10 rad./sec.)		T 315	6000 max. δ min. 42° (Note 3)	6000 max.			6000 max. δ min. 42° (Note 3)	6000 max.			
BBR Test Temperature, °C			-24				-18				
Creep Stiffness, MPa		T 313	300 max.								
M-Value			0.300 min.								
PAV RESIDUE		R 28	100° C, 40 hrs, 300 psi								
ΔT _c , °C		PP 113		-5.0° C					-5.0° C		
NOTES		1. Not applicable for binders with J _{nr3.2} < 0.5 kPa ⁻¹ . 2. >29.371*(J _{nr3.2} ^{0.263}) - binder grades H, V, and E must meet the requirements of AASHTO R 92. 3. 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.