

State: Utah	Materials: Re: Section 02745 - Asphalt Materials
Date Last Reviewed: 6/27/18	Web Address: www.sr.ex.state.ut.us
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Asphalt Binder		
Section 02745	Description	Supply PGAB's under the Approved Supplier Certification (AC) System. Refer to the UDOT Minimum Sampling and Testing Guide, Section 509, Asphalt Binder Management Plan. As specified in AASHTO M 320 for all PGAB's having algebraic differences less than 92 degrees between the high and low design temperatures. As specified in Tables 3 and 5 for all PGAB's having algebraic differences equal to or greater than 98 degrees between the high and low design temperatures.
	PMA's	None stated.
	Exclusions	None stated.

Utah		Table 1: PG Requirements for Performance-Graded Asphalt Binders						
Property		Test Method: AASHTO (T), ASTM (D) or other	Requirements by Performance Grade					
			58-28	58-34	64-28	64-34	70-28	
ORIGINAL								
Flash Point, ° C		T48	260 min.	260 min.	260 min.	260 min.	260 min.	
Rotational Viscosity, Pa·s	135° C	T316	3.0 max.	3.0 max.	3.0 max.	3.0 max.	3.0 max.	
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec)	At Grade Temperature	T315	1.00 min.	1.30 min.	1.30 min.	1.30 min. (1)	1.30 min. (1)	
Phase Angle, °			-	74.0 max.	74.0 max.	71.0 max.	71.0 max.	
RTFO RESIDUE								
Mass Change, %		T240	-	-	-	-	-	
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec.)	At Grade Temperature	T315	2.20 min.	2.20 min.	2.20 min.	2.20 min.	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	19° C	16° C	22° C	19° C	25° C	
			5000 max.	5000 max.	5000 max.	5000 max.	5000 max.	
Creep Stiffness, MPa	At Test Temperature	T313	-18° C	-24° C	-18° C	-24° C	-18° C	
			300 max.	300 max.	300 max.	300 max.	300 max.	
M-Value			0.300 min.	0.300 min.	0.300 min.	0.300 min.	0.300 min.	
Direct Tension	Strain, %	At Test Temperature	T314	-	-24° C	-18° C	-24° C	-18° C
				-	1.50 min.	1.50 min.	1.50 min.	1.50 min.
	Failure Stress, MPa			-	4.00 min.	4.00 min.	4.00 min.	4.00 min.
NOTES		1. Requirement is for G* only.						

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



<i>Utah</i>		Table 2: PG Plus Requirements for Performance-Graded Asphalt Binders					
Property		Test Method: AASHTO (T), ASTM (D) or other	Requirements by Performance Grade				
			58-28	58-34	64-28	64-34	70-28
ORIGINAL							
Specific Gravity	15.6° C	D70	Report	Report	Report	Report	Report
Penetration, tenths of mm	25° C	T49	-	-	-	-	-
Elastic Recovery, %	25° C	T301	-	-	-	-	-
Ductility, cm	25° C	T51	-	-	-	-	-
Force Ductility, Force Ratio	4° C	T300	-	-	-	-	-
Viscosity, Poise	60° C	T316	-	-	-	-	-
Toughness and Tenacity	Toughness, in-lbs.	D5801	-	-	-	-	-
	Tenacity, in-lbs.		-	-	-	-	-
Softening Point, ° C (° F)		T53	-	-	-	-	-
Separation of Polymer, ° C (° F)		D5976	-	-	-	-	-
Solubility, %		T44	-	-	-	-	-
Homogeneity (Screen Test)		-	-	-	-	-	-
Spot Test		T102	-	-	-	-	-
RTFO RESIDUE		T240					
Elastic Recovery, % (1)	25° C	T301	-	65 min.	65 min.	70 min.	70 min.
MSCR		TP70	Report Only	-	-	Report Only	Report Only
NOTES		1. 20cm, cut immediately.					

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