

State: Louisiana	Materials: Re: Section 1002 - Asphalt Materials
Date Last Reviewed: 12/19/13	Web Address: www.dotd.state.la.us
Materials Engineer: Chris Abadie, P.E.	Contact Info: Jason Davis, jason.davis@la.gov

Asphalt Binder		
Section 1002	Description	Asphalt shall be prepared by the refining of petroleum. Asphalt shall be uniform in character, free from water, and shall not foam when heated to 350°F (177°C).
Section 1009.05 (b)	PMA's	PG+ requirements.
	Exclusions	None stated.

Louisiana		Table 1: PG Requirements for Performance-Graded Asphalt Binders						
Property		Test Method: AASHTO (T), ASTM (D) or other	Requirements by Performance Grade					
			58-28	64-22	70-22M	70-22M Alternate (1)	76-22M	82-22RM (2)
ORIGINAL								
Flash Point, °C		T48	232 min.	232 min.	232 min.	232 min.	232 min.	232 min.
Rotational Viscosity, Pa·s (3)	135 °C	T316	3.0 max.	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.	1.00 min.	1.50 min.	1.00 min.	1.00 min.
RTFO RESIDUE		T240						
Mass Change, %		T240	1.00 max.	1.00 max.	1.00 max.	1.00 max.	1.00 max.	1.00 max.
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.	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	25 °C	25 °C	25 °C	25 °C	25 °C
			5000 max.	5000 max.	5000 max.	5000 max.	5000 max.	5000 max.
Creep Stiffness, MPa	At Test Temperature	T313	-18 °C	-12 °C	-12 °C	-12 °C	-12 °C	-12 °C
			300 max.	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.	0.300 min.
Direct Tension, % Strain		T314	-	-	-	-	-	-
NOTES		<ol style="list-style-type: none"> Handling of all samples for testing shall be in accordance with ASTM D4957, Section 7.2, which requires heating the sample in an oven maintained at 190 °C ± 2 °C. Stir the sample occasionally until homogeneous and pour in suitable container for testing. Pouring temperatures shall be 180 °C ± 2 °C for all tests. The quality assurance plan for this product will require the contractors who use this material to submit written documentation of tank cleaning annually. Contractors must have tank mixers. Written certificates of analysis from the asphalt binder supplier confirming rubber source and size distribution of rubber used shall be furnished to the Materials Laboratory. The RV will be measured to determine product uniformity. The RV measured by the supplier shall be noted on the C of D. A binder having an RV of 3.0 Pa-s or less will typically have adequate mixing and pumping capabilities. Binders with RV values higher than 3.0 Pa-s should be used with caution and only after consulting with the supplier as to any special handling procedures and guarantees of mixing and pumping capabilities. 						

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



Louisiana		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	64-22	70-22M	70-22M Alternate	76-22M	82-22RM
ORIGINAL								
Specific Gravity	15.6 °C	T228	-	-	-	-	-	-
Penetration, tenths of mm	25 °C	T49	-	-	-	-	-	-
Elastic Recovery, %	25 °C	T301	-	-	-	-	-	-
Ductility, cm	25 °C	T51	-	-	-	-	-	-
Force Ductility	Force Ratio (f2/f1) (1)	T300	-	-	-	-	0.30 min.	-
	Force Ductility, kg (1)		-	-	0.23 min.	-	-	-
Viscosity, Poise	60 °C	T316	-	-	-	-	-	-
Toughness and Tenacity	Toughness, in-lbs.	D5801	-	-	-	-	-	-
	Tenacity, in-lbs.		-	-	-	-	-	-
Softening Point, °C (°F)		T53	-	-	-	70.0 min.	-	-
Separation of Polymer, Top-Bottom Difference by Softening Point, °C (2)		D7173 T53	-	-	2.0 max.	-	2.0 max.	-
Solubility, % (3)		T44	99.0 min.	99.0 min.	99.0 min.	99.0 min.	99.0 min.	-
Homogeneity (Screen Test)		-	-	-	-	-	-	-
Spot Test		T102	-	-	-	-	-	-
RTFO RESIDUE		T240						
Elastic Recovery, % (4)	25 °C	T301	-	-	40 min.	-	60 min.	60 min.
Ductility, cm	25 °C	T51	-	90 min.	-	-	-	-
MSCR	J _{nr}	TP70	-	-	-	-	-	-
	% Recovery		-	-	-	-	-	-
NOTES		<ol style="list-style-type: none"> AASHTO T 300 except the second (f2) is defined as the stress at 30 cm elongation. Prepare samples per ASTM D 7173. Determine softening point at top and bottom per AASHTO T 53. Not all polymers are soluble in the specified solvents. If the polymer modified asphalt digested in the solvent will not pass the filter media, a sample of the base asphalt used in making the polymer modified asphalt should be tested for solubility. If the solubility of the base asphalt is at least 99.0%, the material will be considered as passing. AASHTO T 301 except elongation shall be 10 cm. 						

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

