

PERFORMANCE GRADED POLYMER MODIFIED ASPHALT BINDER

PROPERTY	Test Method AASHTO or Other	Performance Grade (PG)		
		PG 58-34 PM	PG 64-28 PM	PG 76-22 PM
Original Binder:				
Flash Point, Minimum °C	T48	230	230	230
Solubility, Minimum % ^b	T44	99	99	99
Viscosity at 135°C ^d Maximum, Pa.s	T316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G* / sin(delta), kPa	T315	58 1.00	64 1.00	76 1.00
RTFO Test ^e , Mass Loss, Maximum, %	T240	1.00	1.00	1.00
RTFO Test Aged Binder:				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G* / sin(delta), kPa	T315	58 2.20	64 2.20	76 2.20
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum (delta), kPa	T315	Note e 80	Note e 80	Note e 80
Elastic Recovery ^f , Test Temp., °C Minimum recovery, %	T301	25 75	25 75	25 65
PAV ^g Aging, Temperature, °C	R28	100	100	110
RTFO Test and PAV Aged Binder:				
Dynamic Shear by DSR, Test Temp. at 10 rad/s, °C Max. G* x sin(delta), kPa	T315	16 5000	22 5000	31 5000
Creep Stiffness by BBR, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T313	-24 300 0.300	-18 300 0.300	-12 300 0.300
NOTES:				
a. Performance Graded Polymer Modified Asphalt Binder (PG Polymer Modified) will not be modified using acid modification.				
b. The Engineer will waive this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt".				
c. ASTM D5546 is allowed in lieu of AASHTO T44				
d. The engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.				
e. Test temperature is the "temperature at which G*/sin(delta) equals 2.2 kPa". A graph of log G*/sin(delta) plotted against temperature can be used to determine the test "temperature at which G*/sin(delta) is 2.2kPa". A graph of (delta) versus temperature can also be used to determine delta at "temperature where G*/sin(delta) is 2.2". Direct measurement of (delta) at the "temperature at which G*/sin(delta) is 2.2kPa" is also acceptable.				
f. Test can be performed without force ductility clamp.				
g. "PAV" means Pressurized Aging Vessel.				