

**OKLAHOMA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
PERFORMANCE-GRADED ASPHALT BINDER
USING MULTIPLE STRESS CREEP RECOVERY (MSCR) TEST**

These Special Provisions revise, amend, and where in conflict, supersede applicable sections of the 2009 Standard Specifications for Highway Construction, English and Metric.

708.03 ASPHALT MATERIALS *(Add the following:)*

Provide PG binders in accordance with AASHTO M 320 and Table 708:2 or AASHTO MP19 and Table 708:2A for the grade required by the Contract.

Table 708:2A Additional Requirements to AASHTO MP 19 for PG Binders	
Test	PG 76-28 E
Recovery ^a , %	≤ 95
Separation ^b , %	≤ 10
Original DSR $G^*/\sin(\delta)$, kPa	—
RTFO DSR $G^*/\sin(\delta)$, kPa	—
PAV DSR Change in testing temperature, °F [°C]	77 [25]
Flash point, °F [°C]	≥ 500 [260]
Solubility in trichloroethylene, %	≥ 99
<p>Note: Asphalt binder suppliers will provide handling requirements and recommended field mixing and compaction temperatures for their product to the hot-mix producer.</p> <p>^a Percent recovery as determined by AASHTO TP 70 for J_n, 3.2 kPa.</p> <p>^b Separation test samples are prepared in accordance with ASTM D 5976, but are reported as the difference in G^* between the top and bottom samples.</p>	

B. Application Temperature (Replace Table 708:4 with the following:)

Table 708:4 Temperature Ranges for Use of Asphalt Materials			
Type or Grade	Mixture, °F [°C]	For Mixing, °F [°C]	For Spraying, °F [°C]
PG ^a	≤350 [177]	275 – 350 [135 – 177]	285 – 350 [141 – 177]
MC-30	—	50 – 120 [10 – 49]	50 – 120 [10 – 49]
MC-70	—	80 – 150 [27 – 66]	80 – 150 [27 – 66]
MC-250	≤200 [93]	100 – 200 [38 – 93]	100 – 200 [38 – 93]
MC-800	≤210 [99]	160 – 210 [71 – 99]	185 – 260 [85 – 127]
MC-3000	≤250 [121]	200 – 250 [93 – 121]	225 – 275 [107 – 135]
All emulsions	—	70 – 185 [21 – 85]	70 – 185 [21 – 85]

^a For all PG graded binders except those used in Warm Mix Asphalt (WMA). The minimum temperature for mixing and spraying PG binder used in WMA is 215°F [102°C].

708.06 SAMPLING AND TESTING

A. Testing Methods (Add the following to Table 708:13:)

Table 708:13 Sampling and Testing of Asphalt Materials	
Materials	Testing Method
Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test	AASHTO MP 19
Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	AASHTO TP 70