

Province: Manitoba	Materials: Asphalt Cements
Date Last Reviewed: July 15, 2025	Web Address: http://www.gov.mb.ca/
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Asphalt Cement		
	Description	Asphalt Cements
	PMA's	58-34P, 58-37P, 58-40P
	Exclusions	None listed. Manufacturers/Suppliers must be listed on Manitoba Infrastructure "Approved Product List" for Asphalt Cements.

Manitoba		Table 1: PG Requirements for Performance-Graded Asphalt Cement				
Property		Test Method: AASHTO (T), ASTM (D) or other	Requirements by Performance Grade			
			58-28	58-34P	58-37P	58-40P
ORIGINAL						
Flash Point, °C		T48	230 min.			
Rotational Viscosity, Pa·s	135 °C	T316	3.0 max.			
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec)	At Grade Temperature	T315	1.00 min.			
RTFO RESIDUE		T240				
Mass Change, %		T240	1.00 max.			
Dynamic Shear, kPa (G*/sin δ, 10 rad./sec.)	At Grade Temperature	T315	2.20 min.			
PAV RESIDUE		R28	100 °C			
Dynamic Shear, kPa (G* · sin δ, 10 rad./sec.)	At Test Temperature	T315	19 °C	16 °C	14.5 °C	13 °C
			5000 max.			
Creep Stiffness, MPa	At Test Temperature	T313	-18 °C	-24 °C	-27 °C	-30 °C
			300 max.			
M-Value			0.300 min.			
Direct Tension, % Strain	At Test Temperature	T314	-18 °C	-24 °C	-27 °C	-30 °C
			1.0 min.			
NOTES		None.				

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Manitoba		Table 2: PG Plus Requirements for Performance-Graded Asphalt Cements				
Property		Test Method: AASTHO (T), ASTM (D) or other	Requirements by Performance Grade			
			58-28	58-34P	58-37P	58-40P
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	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				
MSCR	J _{nr}	T350	-	-	-	-
	R _{3.2} , %		-	25	40	40
NOTES		None.				

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Manitoba		Table 1: Requirements for Penetration-Graded Asphalt Cements												
Property		Test Method: AASHTO (T), ASTM (D) or other	Requirements by Penetration Grade											
			120-150 (A)				150-200 (A)				200-300 (A)			
ORIGINAL														
Flash Point, °C		ASTM D92	205min.				205min.				175min.			
Absolute Viscosity, Pa*s Penetration, tenths of mm	60 °C 25 °C	D2171 D5	Note (1)				Note (1)				Note (1)			
			Point	Abs	Visc	Pen	Point	Abs	Visc	Pen	Point	Abs	Visc	Pen
			M	230	(2300)	150	A	155	(1550)	150	C	50	(500)	200
			N	109	(1090)	150	B	78	(780)	150	D	92	(920)	200
			B	78	(780)	200	C	50	(500)	200	E	45	(450)	300
A	155	(1550)	200	D	92	(920)	200	F	26.5	(265)	300			
Viscosity	60 °C 25 °C	D2170 D5	Note (1)				Note (1)				Note (1)			
			Point	Abs	Visc	Pen	Point	Abs	Visc	Pen	Point	Abs	Visc	Pen
			M	435	(435)	150	A	360	(360)	150	C	205	(205)	200
			N	305	(305)	150	B	255	(255)	150	D	285	(285)	200
			B	255	(255)	200	C	205	(205)	200	E	205	(205)	300
A	360	(360)	200	D	285	(285)	200	F	150	(150)	300			
Ductility, cm	15.56 °C	ASTM D113	-				-				100			
	25 °C	ASTM D113	100				100				-			
TFO RESIDUE														
Solubility in Trichloroethylene, % by mass, Tests on Residue from Rolling Thin film Oven Test		ASTM D2042 ASTM D2872	-				99.5 min.				99.5 min.			
Ratio of Absolute Viscosity of Residue from Rolling thin film oven to Original Absolute Viscosity, %			4.0 max.				4.0 max.				4.0 max.			
NOTES		1. The viscosity and penetration must fall within the area bounded by the points stated for each grade as straight lines on a full logarithmic plot (log-log), with the coordinates of the points stated in the table. The asphalt shall be prepared by the refining of petroleum, it shall be uniform and shall not foam when heated to 175C. The temperature at delivery to the site shall be between 135C and 175C.												

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Manitoba		Table2: Requirements for Penetration-Graded Asphalt Cements												
Property		Test Method: AASTHO (T), ASTM (D) or other	Requirements by Penetration Grade											
			300-400 (A)				200-300 (B)				300-400 (B)			
ORIGINAL														
Flash Point, °C		ASTM D92	175 min.				175 min.				175 min.			
Absolute Viscosity, Pa*s Penetration, tenths of mm	60 °C 25 °C	D2171 D5	Note (1)				Note (1)				Note (1)			
			Point	Abs	Visc	Pen	Point	Abs	Visc	Pen	Point	Abs	Visc	Pen
			E	45	(450)	300	C	50	(500)	200	F	26.5	(265)	300
			F	26.5	(265)	300	J	30	(300)	200	K	17.5	(175)	300
			G	17	(170)	400	K	17.5	(175)	300	L	12	(120)	400
H	27	(270)	400	F	27	(270)	300	G	17	(170)	400			
Viscosity	60 °C 25 °C	D2170 D5	Note (1)				Note (1)				Note (1)			
			Point	Abs	Visc	Pen	Point	Abs	Visc	Pen	Point	Abs	Visc	Pen
			E	205	(205)	300	C	205	(205)	200	F	150	(150)	300
			F	150	(150)	300	J	165	(165)	200	K	125	(125)	300
			G	120	(120)	400	K	125	(125)	300	L	102.5	(102.5)	400
H	165	(165)	400	F	150	(150)	300	G	120	(120)	400			
Ductility, cm	15.56 °C	ASTM D113	100				100				100			
	25 °C	ASTM D113	-				-				-			
TFO RESIDUE														
Solubility in Trichloroethylene, % by mass, Tests on Residue from Rolling Thin film Oven Test		ASTM D2042 ASTM D2872	99.5 min.				99.5 min.				99.5 min.			
Ratio of Absolute Viscosity of Residue from Rolling thin film oven to Original Absolute Viscosity, %			4.0 max.				5.0 max.				5.0 max.			
NOTES		1. The viscosity and penetration must fall within the area bounded by the points stated for each grade as straight lines on a full logarithmic plot (log-log), with the coordinates of the points stated in the table. The asphalt shall be prepared by the refining of petroleum, it shall be uniform and shall not foam when heated to 175C. The temperature at delivery to the site shall be between 135C and 175C.												

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