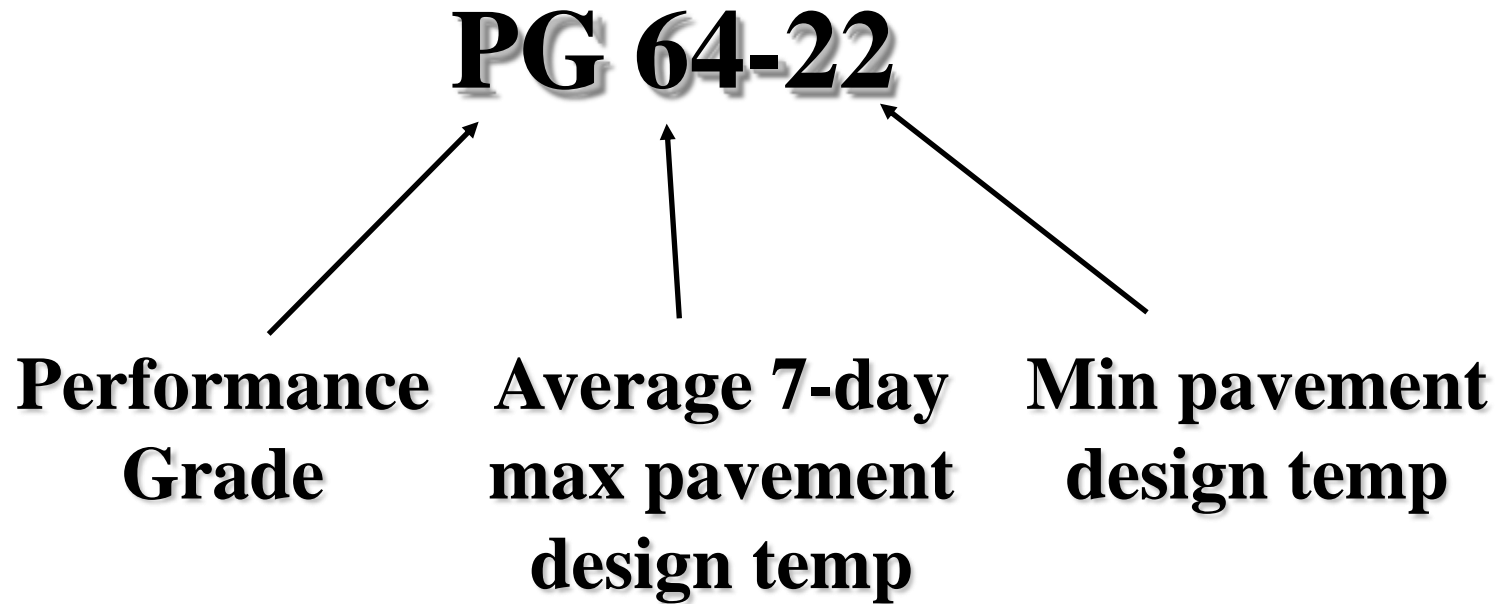
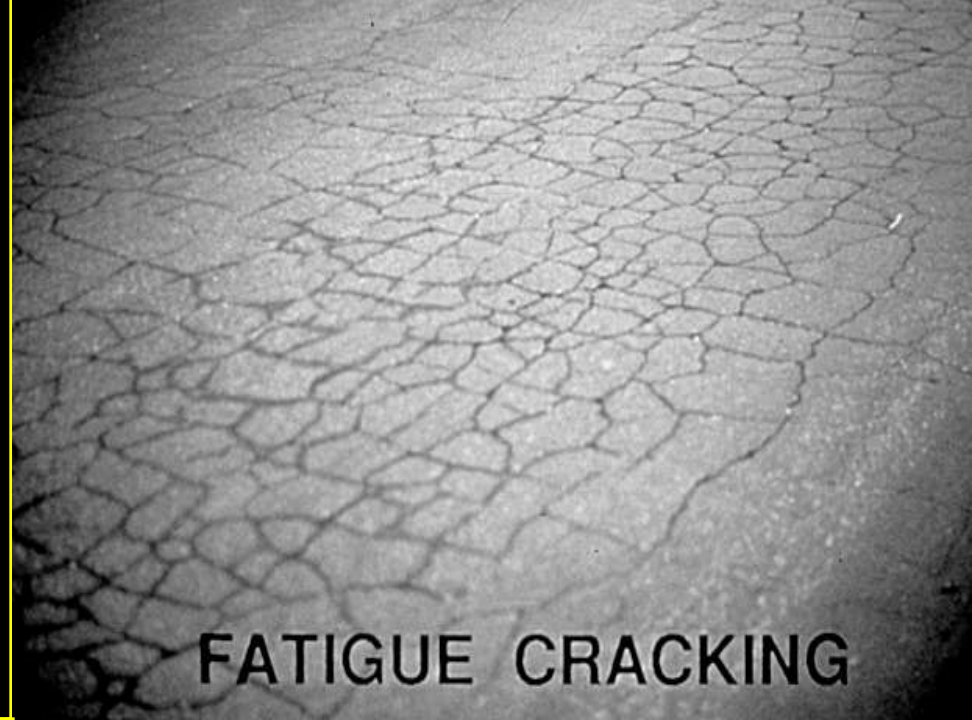


Superpave Asphalt Binder Specification

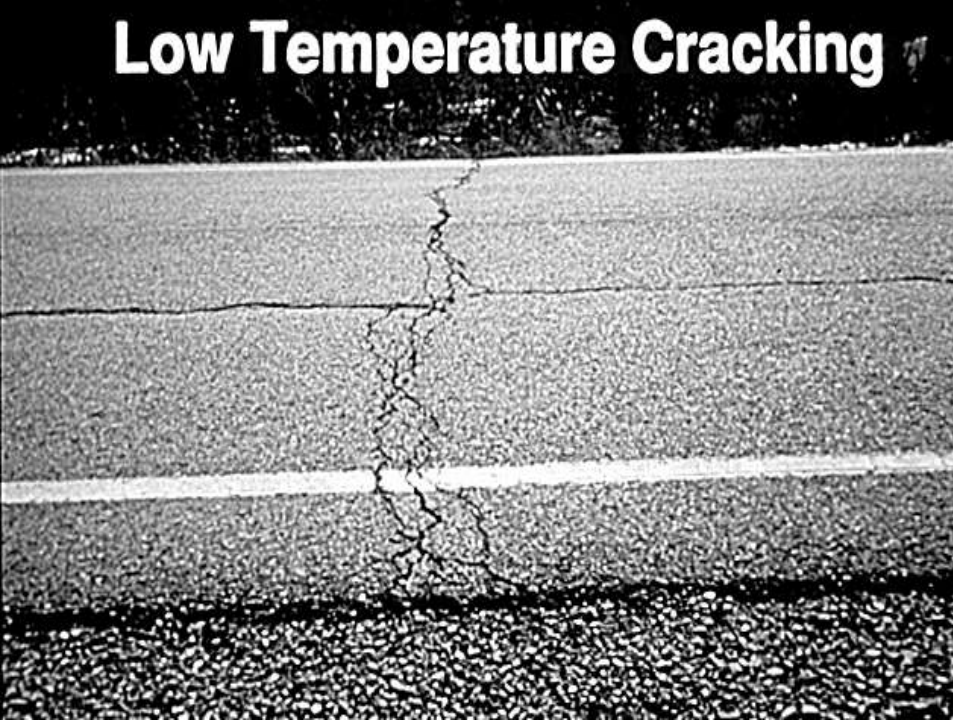
- Grading System Based on Climate



PG (Performance Graded) binder selection seeks to ensure sufficient strength and elasticity in asphalt mixes so as to eliminate these distresses.





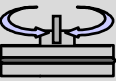
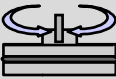



Low Temperature Cracking



Rutting



Performance Grading System

Avg 7-day Max, °C	PG 46				PG 52				PG 58				PG 64				PG 70				PG 76				PG 82																
1-day Min, °C	-34	-40	-46	-10	-16	-22	-28	-34	40	-46	-15	-2	-28	-34	-40	10	-16	-2	-28	-34	-40	10	-6	-2	-28	-34	40	10	-15	-2	-28	-34	-10	-16	-22	-28	-34				
ORIGINAL																																									
 $\geq 230 \text{ }^\circ\text{C}$	(Flash Point) FP																																								
 $\leq 3 \text{ Pa}\cdot\text{s @ } 135 \text{ }^\circ\text{C}$	(Rotational Viscosity) RV																																								
 $\geq 1.00 \text{ kPa}$	(Dynamic Shear Rheometer) DSR $G^*/\sin \delta$																																								
	46	52				58	64				70	76				82																									
(ROLLING THIN FILM OVEN) RTFO Mass Loss $\leq 1.00 \%$																																									
 $\geq 2.20 \text{ kPa}$	(Dynamic Shear Rheometer) DSR $G^*/\sin \delta$																																								
	46	52				58	64				70	76				82																									
(PRESSURE AGING VESSEL) PAV																																									
20 Hours, 2.07 MPa	90	90				100	100				100 (110)	100 (110)				110 (110)																									
 $\leq 5000 \text{ kPa}$	(Dynamic Shear Rheometer) DSR $G^* \sin \delta$																																								
	10	7	2	22	19	16	13	0	7	25	22	19	16	13	-1	2	25	22	19	16	-4	3	28	25	22	19	37	-4	3	28	25	40	37	-4	3	28					28
$S \leq 300 \text{ MPa}$  $m \geq 0.300$	(Bending Beam Rheometer) BBR "S" Stiffness & "m"-value																																								
	-24	30	-36	0	-6	-12	-18	24	30	-36	-6	-12	-18	-24	30	0	-6	-12	-18	-24	-30	0	-6	-12	-18	-24	-30	0	-6	-12	-18	-24	0	-6	-12	-18	-24				
Report Value	(Bending Beam Rheometer) BBR Physical Hardening																																								
$\geq 1.00 \%$ 	(Direct Tension) DT																																								
	-24	30	-36	0	-6	-12	-18	-24	30	0	-6	-12	-18	-24	-30	0	-6	-12	-18	-24	-30	0	-6	-12	-18	-24	-30	0	-6	-12	-18	-24	0	-6	-12	-18	-24				

ODOT Performance Graded Asphalt Binder Schedule

Binder Grade Type	Application for Use
PG 58-28	Lt. traffic; blending with high RAP mixes
PG 64-22	Med. & Lt. traffic
PG 64-28	Hvy. traffic Intermediate course mixes
PG 70-22M (“M” denotes polymer modified)	Hvy. traffic, (Med. & Lt. for added durability)
PG 76-22M (“M” denotes polymer modified)	High Stress locations; Specialty Mixes such as Item 424 Fine-Grade Polymer AC