

Bitumen : paving bitumen type 2

Paving bitumen type 2 shall be classified into four grades according to their penetration and each grade shall be given designation as given in the table with letter "A" denoting the type and a numeral representing the mean of the limits of penetration, specified for the grade.

Requirement for Paving Bitumen (Type 2) from waxy crude

Sr.No.	Characteristics	Requirement for grades				Method of test	
		A 35	A 55	A 66	A 90		
i)	Specific gravity at 27°C, min.	0.99	0.99	0.99	0.98	IS 1202:1978	
ii)	Water, percent by mass, max.	0.2	0.2	0.2	0.2	IS 1211:1978	
iii)	Flash point, Cleveland open Cup, °C, min.	175	175	175	175	IS 1448(P:69):1969	
iv)	Softening Point, °C	55 to 70	45 to 60	45 to 60	35 to 50	IS 1205:1978	
v)	Penetration at 25°C, 100g, sec, 1/10 mm	30 to 40	50 to 60	60 to 70	80 to 100	IS 1203:1978	
vi)	Penetration ratio ¹ , min.	25	25	25	25	-	
vii)	Ductility at 27°C, cm, min.	10	15	15	15	IS 1208:1978	
viii)	Paraffin wax content, percent by mass, max.	10	10	10	10	IS 10512:1983	
ix)	Frass breaking point, °C, min.	-4	-6	-8	-10	IS 9381:1979	
x)	Loss on heating, thin film oven test, percent by mass, max.	1	1	1	1	IS 1212:1978	
xi)	Retained penetration after thin film oven test, 25°C, 100g, 5 sec, 1/10 mm, percent of original, min.	57	57	47	42	IS 9382:1979	
xii)	Matter soluble in trichloroethylene, percent by mass, min.	99	99	99	99	IS 1216:1978	
xiii)	Viscosity at:						
		1. 60°C, Poises	1000 +/- 300	400 +/- 300	300 +/- 10	200 +/- 50	IS 1206(Part 2):1978
		1. 135 °C, cst, min.	250	100	70	50	IS 1206 (Part 3) 1978

Note:

$$\text{Penetration ratio} = \frac{\text{Penetration at } 4 \text{ }^\circ\text{C, 200 g, 60 s}}{\text{Penetration at } 25 \text{ }^\circ\text{C, 100 g, 5}} \times 100$$