

Specification of Bitumen VG10, VG20, VG30, and VG40

Bitumen is a crucial material in road construction, waterproofing, and various industrial applications. Viscosity Grade (VG) Bitumen is classified based on its viscosity measured at 60°C, ensuring more precise performance in different climatic conditions. Below are the specifications for Bitumen VG10, VG20, VG30, and VG40.

1. Bitumen VG10

Applications: Suitable for cold climates, spraying applications, and surface dressing.

Property	Test Method	Specification
Viscosity @ 60°C (Poise)	ASTM D2171	1000 ± 200
Viscosity @ 135°C (cSt)	ASTM D445	Min 250
Penetration @ 25°C (mm/10)	ASTM D5	80–100
Softening Point (°C)	ASTM D36	Min 40
Ductility @ 25°C (cm)	ASTM D113	Min 100
Flash Point (°C)	ASTM D92	Min 220
Solubility in CS ₂ (%)	ASTM D4	Min 99.0
Specific Gravity @ 25°C	ASTM D70	1.01–1.05

2. Bitumen VG20

Applications: Ideal for moderate climates and general road construction.

Property	Test Method	Specification
Viscosity @ 60°C (Poise)	ASTM D2171	2000 ± 400
Viscosity @ 135°C (cSt)	ASTM D445	Min 300
Penetration @ 25°C (mm/10)	ASTM D5	60–80
Softening Point (°C)	ASTM D36	Min 45

Ductility @ 25°C (cm)	ASTM D113	Min 75
Flash Point (°C)	ASTM D92	Min 230
Solubility in CS ₂ (%)	ASTM D4	Min 99.0
Specific Gravity @ 25°C	ASTM D70	1.01–1.05

3. Bitumen VG30

Applications: Recommended for hot climates and heavy traffic roads.

Property	Test Method	Specification
Viscosity @ 60°C (Poise)	ASTM D2171	3000 ± 600
Viscosity @ 135°C (cSt)	ASTM D445	Min 350
Penetration @ 25°C (mm/10)	ASTM D5	50–70
Softening Point (°C)	ASTM D36	Min 47
Ductility @ 25°C (cm)	ASTM D113	Min 40
Flash Point (°C)	ASTM D92	Min 240
Solubility in CS ₂ (%)	ASTM D4	Min 99.0
Specific Gravity @ 25°C	ASTM D70	1.01–1.05

4. Bitumen VG40

Applications: Suitable for high-temperature regions and heavy-duty pavements.

Property	Test Method	Specification
Viscosity @ 60°C (Poise)	ASTM D2171	4000 ± 800
Viscosity @ 135°C (cSt)	ASTM D445	Min 400
Penetration @ 25°C (mm/10)	ASTM D5	40–60
Softening Point (°C)	ASTM D36	Min 50
Ductility @ 25°C (cm)	ASTM D113	Min 25

Flash Point (°C)	ASTM D92	Min 250
Solubility in CS ₂ (%)	ASTM D4	Min 99.0
Specific Gravity @ 25°C	ASTM D70	1.01–1.05

Conclusion

Bitumen VG10, VG20, VG30, and VG40 are essential materials in infrastructure development, each designed for specific climatic conditions and traffic loads. Choosing the right viscosity grade ensures durability, safety, and cost-effectiveness in road construction projects.

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