



Bitumen VG 40 Specification

Product Name: Bitumen VG 40

Product Type: Viscosity Grade Paving Bitumen

Grade: VG 40

Standard: IS 73:2013

CAS Number: 8052-42-4

HS Code: 2713.20

Bitumen VG 40 is a high-viscosity paving-grade bitumen designed for applications subjected to **heavy traffic loads and high pavement temperatures**. Its higher stiffness provides improved resistance to rutting, shoving and other pavement deformation. It is commonly used for highways, intersections, toll plazas, truck parking areas and other heavily stressed pavements.

Technical Specification

Test Parameter	Unit	VG 40 Requirement
Absolute Viscosity at 60°C	Poise	Min. 3200
Kinematic Viscosity at 135°C	cSt	Min. 400
Penetration at 25°C, 100 g, 5 sec	0.1 mm	40–60
Softening Point (Ring & Ball)	°C	Min. 50
Flash Point (Cleveland Open Cup)	°C	Min. 220
Solubility in Trichloroethylene	% by mass	Min. 99.0
Viscosity Ratio at 60°C after TFOT/RTFOT	—	Max. 4.0
Ductility at 25°C after TFOT/RTFOT	cm	Min. 25

Typical Applications

Bitumen VG 40 is particularly suitable for:

- Heavy-duty highway construction
- Asphalt concrete production
- High-traffic roads
- Road intersections
- Toll plazas and toll-booth areas
- Truck and bus parking areas
- Industrial roads
- Airport pavement applications
- Pavements exposed to high temperatures
- Asphalt mixtures requiring increased stiffness and resistance to deformation



Key Characteristics

VG 40 provides **higher viscosity and stiffness** compared with VG 30 and lower viscosity grades. This makes it particularly suitable where pavement deformation under high temperature and heavy axle loads is a concern.

The main performance advantages include improved **rutting resistance, resistance to shoving, pavement stability and load-bearing performance.**

Packing Options

Bitumen VG 40 can be supplied depending on project and destination requirements in:

- New steel drums
- Jumbo bags
- Bulk bitumen tankers
- Bitutainers / bitumen containers

Storage and Handling

VG 40 should be stored in properly designed bitumen storage tanks with controlled heating. Excessive heating should be avoided, and hot bitumen must be protected from contact with water or moisture.

Standard Compliance

The above specification is based on **IS 73:2013 – Paving Bitumen Specification (Fourth Revision)**. The Bureau of Indian Standards identifies VG 40 as one of the viscosity grades covered by this paving-bitumen standard.

The VG 40 limits—including **3200 Poise minimum absolute viscosity, 400 cSt minimum kinematic viscosity, 40–60 penetration, 50°C minimum softening point, and 220°C minimum flash point**—are published in Indian Oil's VG bitumen specification according to IS 73:2013.