TECHNICAL DATA SHEET

BITUMEN 30/40

Penetration Grade Asphalt Binder

Product Type: Petroleum Bitumen – Penetration Grade
Reference Standards: ASTM D946 / EN 12591 / AASHTO M20
Grade Classification: 30–40 (0.1 mm penetration at 25°C)

1. Product Description

Bitumen 30/40 is a hard penetration grade asphalt binder manufactured through controlled vacuum distillation of selected crude oil feedstock. The penetration value between 30 and 40 dmm (0.1 mm) at 25°C indicates a relatively stiff binder designed for high-load and high-temperature pavement applications.

This grade offers strong structural stability and superior resistance to rutting and permanent deformation. It is widely used in heavy-duty asphalt mixtures and in regions exposed to elevated ambient temperatures.

2. Technical Specification

Property	Test Method	Unit	Specification
Penetration @ 25°C	ASTM D5	0.1 mm	30 – 40
Softening Point (Ring & Ball)	ASTM D36	°C	52 – 60
Ductility @ 25°C	ASTM D113	cm	≥ 50
Flash Point (Cleveland Open Cup)	ASTM D92	°C	≥ 250
Specific Gravity @ 25°C	ASTM D70	—	1.01 – 1.06
Solubility in Trichloroethylene	ASTM D2042	%	≥ 99.0
Loss on Heating (TFOT)	ASTM D6	% wt	≤ 0.5
Retained Penetration After TFOT	ASTM D5	%	≥ 60
Ductility After TFOT	ASTM D113	cm	≥ 25
Water Content	ASTM D95	%	≤ 0.2
Spot Test	AASHTO T102	—	Negative

Values may be adjusted according to contractual or regional specifications.

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3. Performance Characteristics

Bitumen 30/40 provides:

- High resistance to rutting under heavy traffic
- Strong adhesion to mineral aggregates
- Improved load distribution in asphalt layers
- Reduced bleeding in hot climates
- Enhanced structural stiffness

Its relatively high softening point ensures stability at elevated pavement temperatures.

4. Typical Applications

- Heavy-duty highways
- Expressways in warm climates
- Airport runways and taxiways
- Industrial yards and container terminals
- Bridge deck asphalt systems
- High-performance asphalt concrete

This grade is recommended for pavement structures requiring high compressive strength and resistance to deformation.

5. Handling and Heating Guidelines

- Recommended storage temperature: 150–170°C
- Recommended mixing temperature: 160–180°C
- Maximum heating temperature: 200°C
- Avoid prolonged overheating to prevent oxidative aging
- Prevent contamination with water

Temperature control is critical to maintain performance properties during production and application.

6. Physical Properties

- Appearance: Black solid material
- Odor: Mild hydrocarbon odor
- State at 25°C: Hard solid
- Solubility: Fully soluble in carbon disulfide
- Flammability: Non-flammable at ambient temperature

7. Packaging Options

Bitumen 30/40 is available in:

- New steel drums (150–180 kg net weight)
- Jumbo bags (1 MT)
- Poly bags
- Bulk vessel shipment
- Bitutainer containers
- Tank truck supply

Packaging can be customized depending on export destination and project requirements.

8. Quality Control and Documentation

Each production batch is tested for compliance with:

- Penetration limits
- Softening point range
- Ductility performance
- Flash point safety
- Solubility purity

Standard shipment documentation includes:

- Certificate of Analysis (COA)
- Quality Control Report
- Safety Data Sheet (MSDS)
- Batch traceability documentation

9. Composition Overview

Bitumen 30/40 consists primarily of:

- Asphaltenes (providing structural stiffness)
- Resins (enhancing adhesion and elasticity)
- Aromatic hydrocarbons
- Saturated hydrocarbons

No polymer modifiers are included unless specifically requested.

10. Compliance

Bitumen 30/40 conforms to:

- ASTM D946
- EN 12591
- AASHTO M20
- Other national road authority standards upon request