



# Technical Data Sheet (TDS)

## Bitumen AH 50

Chinese Standard Penetration Grade Asphalt Binder

### 1. Product Description

Bitumen AH 50 is a petroleum-based asphalt binder produced under the Chinese standard penetration grading system. It is a medium-hard paving grade bitumen designed for heavy-duty road construction, airport pavements, highways, industrial yards, and high-load asphalt mixtures.

The grade number “50” represents its penetration range at 25°C, indicating a balanced stiffness level suitable for warm climates and heavy traffic conditions. AH 50 provides strong rutting resistance while maintaining sufficient ductility for pavement durability.

### 2. Standards & Classification

- Classification: Penetration Grade Bitumen
- Grade: AH 50
- Standard: Chinese Standard (GB/T 15180 & relevant paving bitumen specifications)
- Application Type: Hot Mix Asphalt (HMA), Asphalt Concrete (AC), Binder & Base Course

### 3. Typical Technical Specifications

Property	Test Method	Unit	Specification
Penetration at 25°C	GB/T 4509	0.1 mm	40 – 60
Softening Point (Ring & Ball)	GB/T 4507	°C	≥ 49
Ductility at 15°C	GB/T 4508	cm	≥ 100
Flash Point (Cleveland Open Cup)	GB/T 3536	°C	≥ 260
Solubility in Trichloroethylene	GB/T 11148	%	≥ 99.5
Density at 25°C	GB/T 8928	g/cm <sup>3</sup>	1.01 – 1.06
Loss on Heating (TFOT)	GB/T 5304	% wt	≤ 0.8
Penetration Ratio After Heating	GB/T 4509	%	≥ 65

*Note: Values may vary slightly depending on refinery production source.*

### 4. Performance Characteristics

✓ Medium Hardness

Provides strong resistance to permanent deformation under heavy axle loads.

✓ Excellent Rutting Resistance

Suitable for highways, airports, container yards, and industrial pavements.

✓ Stable High-Temperature Performance

Maintains structural integrity in warm and tropical climates.

✓ Good Adhesion to Aggregates

Ensures effective bonding when used with properly graded aggregates.



✓ Consistent Refinery Quality

Uniform viscosity and penetration range support predictable asphalt plant operations.

## 5. Recommended Applications

Bitumen AH 50 is recommended for:

- Highway construction
- Airport runways and taxiways
- Urban heavy-traffic roads
- Industrial zones and container terminals
- Asphalt binder course
- Asphalt base course
- High-load pavement layers

## 6. Mixing & Application Guidelines

Operation	Recommended Temperature
Storage Temperature	140 – 160°C
Mixing Temperature	150 – 170°C
Compaction Temperature	140 – 160°C

Overheating above 180°C is not recommended as it may accelerate aging and affect performance.

## 7. Packaging Options

- New steel drums (150–180 kg net weight)
- Jumbo bags (1 MT)
- Bulk tankers
- Bitutainers

Bulk shipment is generally preferred for large infrastructure projects.



## 8. Storage & Handling

- Store in insulated tanks equipped with temperature control.
- Avoid direct flame contact during heating.
- Prevent water contamination.
- Maintain storage temperature below 180°C.
- Use appropriate personal protective equipment (PPE) during handling.

## 9. Health & Safety

Bitumen AH 50 is stable at ambient temperature. When heated:

- Avoid inhalation of fumes.
- Wear protective gloves and face shields.
- Ensure adequate ventilation.
- Refer to the Material Safety Data Sheet (MSDS) for detailed safety guidance.

Flash point above 260°C ensures safe handling under standard asphalt plant conditions.

## 10. Quality Assurance

Each batch is tested prior to shipment to ensure compliance with Chinese standard bitumen specifications. Certificates of Analysis (COA) are issued upon request.

Third-party inspection services can be arranged before loading for international shipments.

## 11. Shelf Life

Indefinite under proper storage conditions, provided overheating and contamination are avoided.

## 12. Disclaimer

The data provided in this Technical Data Sheet represents typical values based on standard production. It is the responsibility of the user to verify suitability for specific applications and local regulations.