



Technical Data Sheet (TDS)

Bitumen PG 58-40

1. Product Description

Bitumen PG 58-40 is a performance-graded asphalt binder engineered for regions that experience moderate summer heat and extremely cold winter temperatures. Its grading—**PG 58-40**—means the binder remains stable at high pavement temperatures up to **+58°C** while maintaining exceptional flexibility and crack resistance down to **-40°C**. This makes PG 58-40 ideal for road networks exposed to severe cold, freeze-thaw cycles, and thermal stress. With strong elasticity, superior adhesion, and excellent fatigue resistance, PG 58-40 provides long-lasting performance for roads that must remain durable and safe throughout extreme weather conditions.

2. Applications

PG 58-40 is recommended for:

- Highways and expressways in cold climates
- Municipal and regional road networks
- Pavements exposed to severe low temperatures
- Rural roads and mountain routes
- Freeze-thaw environments
- Asphalt overlays and rehabilitation projects

3. Key Features & Benefits

- **Wide Temperature Range:** Performs from +58°C to -40°C.
- **Excellent Low-Temperature Flexibility:** Prevents thermal cracking.
- **High Elasticity:** Maintains structure under extreme climate stress.
- **Superior Fatigue Resistance:** Withstands repetitive loading.
- **Strong Adhesion to Aggregates:** Improves pavement longevity.
- **Enhanced Rutting Resistance:** Reduces deformation in warmer seasons.
- **Stable All-Season Performance:** Ideal for fluctuating climates.



4. Technical Specifications (Typical Values)

Tested according to AASHTO M320 standards.

Property	Test Method	Specification (PG 58-40)
Performance Grade	AASHTO M320	PG 58-40
Flash Point	AASHTO T48	≥ 230°C
Viscosity at 135°C	AASHTO T316	≤ 3 Pa·s
DSR (Original Binder), G*/sin δ @ 58°C	AASHTO T315	≥ 1.00 kPa
RTFO Mass Loss	AASHTO T240	≤ 1.00%
DSR (RTFO Residue), G*/sin δ @ 58°C	AASHTO T315	≥ 2.20 kPa
BBR Stiffness at -30°C	AASHTO T313	≤ 300 MPa
BBR m-value at -30°C	AASHTO T313	≥ 0.300
Direct Tension Test at -40°C	AASHTO T314	≥ 1.5% strain
Rotational Viscosity at 165°C	AASHTO T316	≤ 2.0 Pa·s

5. Storage & Handling

- Store in heated tanks between **140°C and 165°C**.
- Avoid overheating above **175°C** to prevent oxidation or binder damage.
- Use insulated pipelines and pumps for safe transfer.
- Maintain slow circulation to ensure uniformity.

6. Safety & Precautions

- Wear PPE including gloves, goggles, and protective clothing.
- Avoid direct contact with hot material.
- Never allow water to enter hot bitumen tanks—risk of violent boiling.
- Ensure proper ventilation during heating and pumping.
- Follow local transport and storage safety regulations.

(For more safety details, request the MSDS.)

7. Packaging Options

- Bulk in heated tankers
- New steel drums (180–200 kg)
- Bitutainers / Flexi-bags
- Customized packaging on request

8. Shelf Life

When stored under proper conditions, Bitumen PG 58-40 remains stable for **12 months** without performance degradation.



9. Compliance

PG 58-40 meets:

- **AASHTO M320 Superpave Standards**
- **ASTM performance-graded binder specifications**
- Project-specific requirements upon request