



Technical Data Sheet (TDS)

Bitumen K 160

Cationic Rapid Setting Bitumen Emulsion

1. Product Description

Bitumen K 160 is a high-performance cationic rapid-setting (CRS) bitumen emulsion designed for road construction and maintenance applications. It consists of refined bitumen dispersed in water with specialized emulsifying agents. The positive (cationic) charge enables strong adhesion to negatively charged aggregates such as granite, basalt, and limestone.

This product is supplied in liquid form at ambient temperature, eliminating the need for high-temperature heating during application. It ensures efficient sprayability, uniform coating, and rapid breaking characteristics.

2. Applications

Bitumen K 160 is recommended for:

- Tack coat between asphalt layers
- Prime coat on prepared granular base
- Surface dressing and chip sealing
- Patch repair and maintenance works
- Penetration macadam construction
- Bond coat before asphalt overlay

It is especially suitable for projects requiring rapid setting and minimal traffic disruption.

3. Technical Specifications

Property	Test Method	Typical Value
Appearance	Visual	Brown liquid
Particle Charge	ASTM D244	Cationic (Positive)
Residue by Evaporation	ASTM D244	60 ± 2 %
Saybolt Furol Viscosity @ 50°C	ASTM D244	20 – 100 sec
Sieve Test (850 µm)	ASTM D244	Max 0.1 %
Storage Stability (24 hrs)	ASTM D244	Max 1 %
Demulsibility	ASTM D244	Rapid Setting
Settlement	ASTM D244	Within limits
Penetration of Residue @ 25°C	ASTM D5	60 – 100 dmm (Typical)
Softening Point of Residue	ASTM D36	45 – 55 °C (Typical)
Ductility of Residue @ 25°C	ASTM D113	Min 40 cm

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

4. Physical Characteristics

- State: Liquid
- Color: Dark brown
- Odor: Mild bituminous odor
- Solubility: Dispersible in water
- Flash Point (Residue): > 230°C



5. Performance Features

- Excellent adhesion to aggregates
- Rapid breaking and curing
- Uniform spray pattern
- Easy pumping and handling
- Reduced heating requirements
- Environmentally safer than hot bitumen

Compared with slower-setting emulsions such as Bitumen SS1, Bitumen K 160 provides faster bonding and improved early strength development.

6. Application Guidelines

For best performance:

1. Ensure surface is clean and free from dust and loose particles.
2. Apply using calibrated spray equipment.
3. Recommended application temperature: 5°C to 50°C ambient.
4. Avoid application during heavy rain.
5. Allow sufficient breaking time before overlay placement.

Spray rate depends on project type and surface condition.

6. Recommended Spray Rates (General Guidance)

Application Type	Approx. Spray Rate
Tack Coat	0.25 – 0.50 kg/m ²
Prime Coat	0.70 – 1.20 kg/m ²
Surface Dressing	1.00 – 1.50 kg/m ²

Actual rate should be confirmed by field trials.



8. Storage & Handling

- Store in clean, closed tanks or drums.
- Recommended storage temperature: 5°C – 50°C.
- Protect from freezing.
- Avoid contamination with other chemicals.
- Agitate gently if stored for extended periods.

Do not overheat the emulsion, as excessive heating may cause premature breaking.

9. Packaging Options

Bitumen K 160 is available in:

- 200 kg steel drums
- 1 MT IBC tanks
- Bulk tanker trucks
- ISO tanks for export

Packaging type depends on order volume and logistics requirements

10. Shelf Life

Under proper storage conditions, the recommended shelf life is **up to 3 months** from the date of production.

11. Quality Control

Each production batch undergoes strict laboratory testing to ensure:

- Correct residue percentage
- Controlled viscosity
- Stable emulsion structure
- Proper breaking behavior
- Compliance with international standards

Independent inspection can be arranged before shipment upon buyer request.



12. Safety Information

- Avoid prolonged skin contact.
- Wear protective gloves and safety glasses during handling.
- In case of eye contact, rinse immediately with clean water.
- Refer to the MSDS for complete safety and hazard information.

13. Supply & Export

Bitumen K 160 is supplied for both domestic and international projects. Export documentation includes:

- Certificate of Analysis (COA)
- Commercial Invoice
- Packing List
- Bill of Lading
- Certificate of Origin (if required)

ATDM supplies Bitumen K 160 with verified laboratory reports and standardized production control to ensure consistent performance in road construction projects worldwide.