



# Bitumen Emulsion SS1 – Full Technical Specification

Below is a comprehensive technical specification for **Bitumen Emulsion SS1 (Slow Setting Grade 1)** used in road construction, surface dressing, tack coat, and soil stabilization applications.

## 1. Product Description

Bitumen Emulsion SS1 is a slow-setting, anionic (or cationic upon request) bituminous emulsion produced by dispersing refined penetration-grade bitumen in water with an emulsifying agent. It is designed for applications requiring slow breaking characteristics and deep penetration into porous surfaces.

## 2. Standard Compliance

Bitumen Emulsion SS1 typically complies with international standards such as:

- ASTM D977 – Standard Specification for Emulsified Asphalt
- AASHTO M140 – Emulsified Asphalt
- EN 13808 – Bitumen and Bituminous Binders

(Custom specifications available upon project requirements.)

## 3. Typical Technical Properties

Property	Test Method	Typical Value	Specification Range
Residue by Distillation	ASTM D244	57 – 63 %	Min 57%
Viscosity (Saybolt Furol @ 25°C)	ASTM D244	20 – 100 SFS	20 – 100 SFS
Storage Stability (24 hrs)	ASTM D244	Max 1%	Max 1%
Particle Charge	ASTM D244	Anionic / Cationic	As specified
Sieve Test	ASTM D244	Max 0.1%	Max 0.1%
Penetration of Residue @ 25°C	ASTM D5	100 – 200 dmm	100 – 200 dmm
Ductility @ 25°C	ASTM D113	Min 40 cm	Min 40 cm
Solubility in Trichloroethylene	ASTM D2042	≥ 97.5%	≥ 97.5%



*Note: Values may vary slightly depending on project requirements and base bitumen grade.*

#### 4. Physical Characteristics

- Appearance: Dark brown liquid
- Odor: Mild petroleum odor
- Consistency: Homogeneous and free from lumps
- Setting Type: Slow setting
- Application Temperature: Ambient (No heating required)

#### 5. Application Areas

Bitumen Emulsion SS1 is recommended for:

- Tack Coat Application
- Prime Coat Application
- Surface Dressing
- Soil Stabilization
- Cold Mix Asphalt
- Maintenance and Repair Works

#### 6. Advantages

- No heating required
- Excellent adhesion to aggregates and base layers
- Safe and environmentally friendly
- Cost-effective and energy-saving
- Suitable for various climatic conditions
- Improved bonding strength between pavement layers

#### 7. Recommended Application Guidelines

- Surface must be clean and free from dust, oil, and loose particles.
- Apply using spray equipment, distributor truck, or manual spray.
- Typical application rate:
  - Tack Coat: 0.2 – 0.5 kg/m<sup>2</sup>
  - Prime Coat: 0.7 – 1.5 kg/m<sup>2</sup>
- Allow sufficient curing time before overlay placement.
- Do not apply during heavy rain or when surface temperature is below 5°C.



## 8. Storage and Handling

- Store in tightly sealed tanks or drums.
- Keep away from extreme heat or freezing temperatures.
- Maintain storage temperature between 5°C and 50°C.
- Stir gently before use if stored for extended periods.
- Avoid contamination with chemicals or debris.

Shelf Life: Up to 6 months under proper storage conditions.

## 9. Packaging Options

- Bulk Tanker Supply
- 200 kg Steel Drums
- 1000 kg IBC Tanks
- Custom Packaging upon request

## 10. Health & Safety Information

- Avoid direct contact with skin and eyes.
- Use protective gloves and safety goggles.
- In case of contact, rinse with clean water immediately.
- Refer to the Material Safety Data Sheet (MSDS) for detailed safety instructions.

Bitumen Emulsion SS1 is non-flammable under normal conditions due to its water-based composition.

## 11. Quality Control

Each batch undergoes strict laboratory testing to ensure:

- Consistent viscosity
- Proper residue content
- Controlled breaking time
- Stability during storage

Certificates of Analysis (COA) are available upon request.



## 12. Customization

Customized formulations can be supplied based on:

- Climate conditions
- Project specifications
- Aggregate type
- Performance requirements