PRODUCTS & SERVICES

- MANUFACTURING OF BITUMEN EMULSION
- BITUMEN TRADING
- DEALING IN LDO
- BITUMEN BULK TRANSPORTATION

Our reliable bulk transportation network ensures the safe and timely movement of bulk bitumen from leading refineries, including HPCL, BPCL & IOCL, and manufacturing facilities to project sites across India. We also provide bulk transportation of LDO and bitumen emulsion, catering to diverse industrial and infrastructure requirements.

With suitable bulk tankers and efficient logistics management, we focus on secure handling, timely delivery and maintaining product integrity throughout the transportation process.

LOADING TYPE OF VEHICLE

- 22 MT
- 24 MT
- 29 MT
- 32 MT



SAI PETROCHEM

It is our duty to protect and preserve our mother land surrounded by the beautiful nature ensuring others to protect too. For that our endeavour lives in using proper methods, and technological advancements giving us eco friendly products which are capable to last long.





- Madhya Pradesh
- Maharashtra
- Gujarat
- Rajasthan
- All India





ROAD STABLER
Road To Be A Better Life...

ROAD STABLER
by Sai Petrochem
Road To Be A Better Life...

Manufacturer of Bitumen Emulsion



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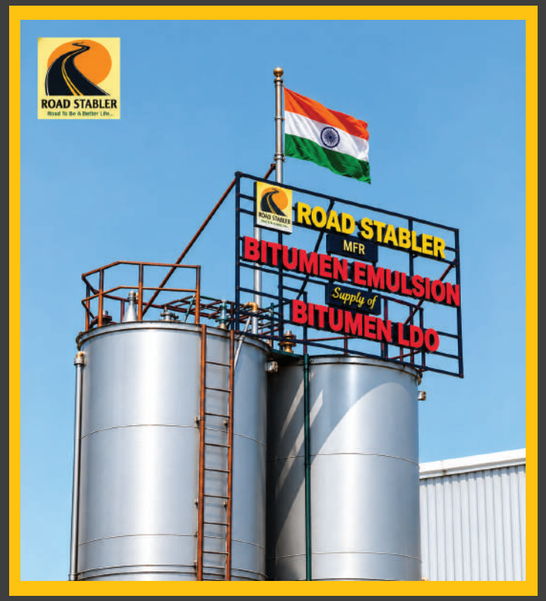
Bharat Petroleum | IndianOil | HP

INTRODUCTION



Sai Petrochem is an experienced manufacturer of bitumen emulsion, with more than 10 years of experience in the road construction materials industry. We are committed to delivering reliable, high-quality products that contribute to the strength, durability, and performance of road infrastructure.

Our brand, ROAD STABLER, represents our commitment to product consistency, dependable performance, and quality. Bitumen emulsion plays a vital role in modern road construction, and we strive to maintain high standards throughout our manufacturing and supply operations.

With our modern bitumen emulsion manufacturing plant and well-equipped laboratory facilities, we focus on maintaining consistent product quality and meeting applicable industry standards. From raw material selection and processing to testing, packaging, and dispatch, each stage of our operations is supported by quality-control procedures designed to ensure product reliability.

Our production systems and organized operational processes support efficient drum filling, sealing, packaging, and vehicle dispatch. Through our infrastructure, technical capabilities, and commitment to quality, we aim to be a trusted partner in road construction and infrastructure development.

Sai Petrochem — Quality, Reliability, and Progress in Every Road.

Our Commitment

Modern infrastructure, certified quality testing, consistent products, and reliable service.



OUR INFRASTRUCTURE

Modern Manufacturing Facility

Our plant is equipped with modern, automated bitumen emulsion production technology, supporting efficient manufacturing operations and consistent product quality.



Advanced Storage Facilities

Our large vertical storage tanks facilitate the safe storage and efficient handling of bituminous materials, supporting reliable bulk supply and timely dispatch.

Quality Assurance at Every Stage

We follow systematic quality-control procedures from raw material selection and processing to laboratory testing, packaging, and final dispatch to maintain product consistency and reliability.

BIS-Certified Testing Laboratory

Our BIS-certified in-house laboratory is equipped to conduct bitumen emulsion testing in accordance with applicable requirements of IS 8887. Regular quality checks support product consistency and compliance with relevant standards.

Efficient Production & Dispatch

Our organized production, drum-filling, packaging, and dispatch operations support efficient material handling and dependable service for road construction projects.



INDIAN STANDARD SPECIFICATION

specification of

CATIONIC BITUMEN EMULSION

	TEST	Requirements As per IS: 8887-2018				
		RS1	RS2	MS	SS1	SS2
1	Residue on 600 micron sieve, % mass, max	0.05	0.05	0.05	0.05	0.05
2	Viscosity by saybolt furol viscometer, sec , at 25°c	-	-	-	20-150	30-150
3	Viscosity by saybolt furol viscometer, sec, at 50°c	20-100	100-300	50-300	-	-
4	Coagulation of Emulsion at low temperature	NIL	NIL	NIL	NIL	NIL
5	Storage stability after 24 hours, % max	2	1	1	2	2
6	Particle charge	+ve	+ve	+ve		+ve
7	Coating ability and water resistance					
7a	Dry aggregates	-	-	Good	-	-
7b	After spraying	-	-	Fair	-	-
7c	Wet aggregates	-	-	Fair	-	-
7d	After spraying	-	-	Fair	-	-
8	Stability to mixing with cement % coagulation, max	-	-	-	-	-
9	Miscibility with water	No Coagulation			Immiscible	No Coagulation
10	Tests on residue					
10a	Residue by evaporation, %, min	60	67	65		60
10b	Penetration at 25°c, 100g, 5 sec	80-150	80-150	60-150		60-120
10c	Ductility at 27°c, cm, min	50	50	50		50
10d	Solubility in Trichloroethylene % min	98	98	98	98	98
11	Distillation in % by volume, min					
a	190°c	-	-	-	20-55	-
b	225°c	-	-	-	30-75	-
c	260°c	-	-	-	40-90	-
d	315°c	-	-	-	60-100	-
12	Water content, % by mass, MAX	-	-	-	20	-
13	Residue at 360°C min	-	-	-	50	



What is Bitumen Emulsion?

Bitumen Emulsion is a liquid mixture of bitumen dispersed in an aqueous medium and stabilized using emulsifiers. It can be safely applied at ambient temperatures without pre-heating. Based on climatic conditions, road requirements, and application types, we manufacture the following grades:

Micro Surfacing:

Used to preserve, protect, and restore underlying pavement structures while providing a high-friction driving surface. It utilizes polymer-modified quick-setting emulsions that break chemically, independent of weather or evaporation.

Slurry Seal:

Applied on highways, airport runways, and residential streets to provide skid resistance and waterproofing. Applied thin (2mm to 6mm), utilizing Slow Setting Emulsions.

Cold Mix:

A mixture of aggregates and bitumen emulsion used for open-graded premix carpets, road patch repairs, pothole maintenance, and surface restoration.

Tack Coat:

A light uniform spray of Rapid Setting Bitumen Emulsion (RS-1) applied to ensure a strong adhesive bond between an existing pavement layer and a new bituminous layer.

Prime Coat:

Applied over an untreated granular base (WMM/GSB) to prepare it for bituminous surfacing. Slow Setting Emulsions (SS-1) are typically used for deep penetration.

Fog Seal / Crack Seal:

A light application of Slow Setting Emulsion (SS-1) used to renew oxidized surfaces, seal micro-cracks, and extend pavement life.

Application & Technical Role of Bitumen Emulsion in Road Construction

- **Subgrade**
  The naturally compacted base layer providing foundation support to the entire flexible pavement structure.
- **Granular Sub-Base**
  Aggregate layer placed over the subgrade to distribute loads and provide drainage.
- **Base Course**
  Bound or unbound crushed stone aggregate layer providing principal structural load distribution.
- **Prime Coat Application**
  Emulsion Type: SS-1 / SS-1h (Slow Setting Cationic Bitumen Emulsion)
- **Bituminous Macadam**
  High-density bituminous aggregate layer carrying heavy structural loads from traffic..
- **Tack Coat Application**
  Emulsion Type: RS-1 / SS-1h Function & Role:
  - Applied as a thin, uniform spray over existing bituminous surfaces or binder courses.
  - Acts as a high-strength adhesive glue preventing slippage and debonding between road layers.
  - Ensures monolithic load transfer across all asphalt layers.



- **Wearing Course**
  Topmost layer of asphalt designed to resist heavy traffic wear, skid, and weather exposure.
- **Surface Treatment & Protection**
  Emulsion Type: CRS-2 / Rapid Setting Bitumen Emulsion

Key Technical Advantages of Bitumen Emulsion for Roads:

1. Eco-Friendly & Safe: Cold-applied application eliminates fire hazards and reduces emissions.
2. Superior Penetration: Excellent flowability ensures deep capillary coverage.
3. All-Weather Capability: Works effectively even in damp or humid road conditions.
4. Energy Efficient: Saves heating fuel and speeds up highway construction times.

OUR QUALITY CONTROL LAB



Routine Testing Facilities

- **600 Micron Sieve Residue**:
  Checks coarse particles and ensures proper emulsion quality.
- **Saybolt Furol Viscosity**:
  Measures the flow characteristics of the emulsion.
- **Low-Temperature Coagulation**:
  Checks stability under low-temperature conditions.
- **Distillation & Water Content**:
  Measures water content and recovery of binder components.
- **Particle Charge:**
  Determines the electrical charge of emulsion particles.
- **Coating & Water Resistance:**
  Evaluates aggregate coating and resistance to water
- **Miscibility with Water:**
  Determines the emulsion's ability to mix uniformly with water.
- **Residue by Evaporation:**
  Measures the binder residue remaining after evaporation.
- **Penetration & Ductility:**
  Evaluates binder consistency and flexibility.





REQUIREMENTS FOR PAVING BITUMEN

	Characteristics	Requirements As per IS 73 : 2013				Method of Test Ref to
		Vg10	VG20	VG30	Vg40	
1	Prenetration at 25℃, 100 g, 5s, 0.1 mm, Min	80	60	45	35	IS 1203
2	viscosite at 60℃, Poises	800-1200	1600-2400	2400-3600	3200-4800	IS 1206 (Part-2)
3	Kinematic viscosity at 135℃ cSt, Min	250	300	350	400	IS 1206 (Part-3)
4	Flash point (Cleveland open cup),℃, Min	220	220	220	220	IS 1448 (P:69)
5	Softening point (R & B),℃, Min	40	45	47	50	IS 1205
6	Solubility in trichaloroethylene, % Min	99	99	99	99	IS 1216
7	Ductility at 25℃, cm, Min	75	50	40	25	IS 1208

Paving Bitumen shall comply with the specified requirements of IS 73:2013 to ensure consistent quality, durability and pavement performance. The appropriate VG grade should be selected according to climatic conditions, traffic loading and application requirements. Bitumen must exhibit the specified penetration, viscosity, softening point, flash point, solubility and ductility characteristics. Proper heating, handling, storage and application practices are essential to maintain uniform performance and achieve a durable, high-quality pavement.

Different Grades of Bitumen Emulsion & Their Uses :

RS-1 (Rapid Setting Cationic Bitumen Emulsion)

Key Advantages & Features:

1. Rapid Setting Time: Breaks and sets rapidly upon spraying, enabling faster construction progress and quick traffic restoration.
2. Superior Interlayer Bonding: Acts as a high-strength adhesive glue between asphalt layers, preventing layer separation, debonding, and slippage under heavy traffic loads.
3. Cold Application (No Heating Required): Applied at ambient temperatures without heating, saving fuel costs, reducing emissions, and eliminating fire hazards.
4. Excellent Moisture Resistance: Provides effective coverage and strong adhesion even on slightly damp road surfaces.

SS-1 / SS-1h (Slow Setting)- Primarily used for Prime Coat on WMM/GSB base courses due to its deep penetration (5–10 mm) and sealing capabilities.

RS-2 (Rapid Setting)- Used for Surface Dressing / Chip Seal and heavy tack applications in combination with coarse aggregates.

MS (Medium Setting)- Used for Premix Carpet and patch repair works where controlled mixing time with open-graded aggregates is required.

CRS-1 / CRS-2 (Cationic Rapid Setting)- Fast-breaking emulsions used for Surface Treatments, Fog Seals, and Rapid Tack Coats to waterproof road surfaces.

CSS-1 / CSS-1h (Cationic Slow Setting)- Highly stable, fine-particle emulsions designed for Slurry Sealing, Micro-Surfacing, and Soil Stabilization.



DRUM FILLING PROCESS



DRUM DISPATCH PROCESS

Our advanced drum filling process is designed to ensure accurate quantity, consistent quality and safe handling of bitumen emulsion. Each drum is carefully filled under controlled conditions to maintain product uniformity, minimize handling risks and preserve the quality of the emulsion until delivery.

Once filling and quality checks are completed, the drums are systematically arranged and prepared for dispatch. Secure handling and proper loading practices help prevent damage or leakage during transportation, ensuring that our bitumen emulsion reaches customers safely, efficiently and in excellent condition.