



BITUMAX **INDIA**

A Company Of Quality

PRODUCT CATALOGUE

ABOUT US

Welcome to Bitumax India, your number one source for all things about bitumen and bituminous product. As one of the pioneer manufacturer of cationic bitumen Emulsion, cold bitumen and all Grade of Blown bitumen as per ISI Specification IS 8887:2018 & as per IS: 73:2013 respectively. We are one of the leading importers of VG-30 (bitumen 60/70) in eastern India.

As a known industry leader, we're used to working with all types of customers - local or global, large or small. Exceptional quality is the foundation of our company, and is the driving force behind all decisions; whether it's which materials to purchase or the best way to serve our customers. We work in a highly competitive field, so we're constantly investing in technology and research to make sure we stay ahead of the curve. Our commitment to quality guarantees our success and your satisfaction.

We're dedicated to giving you the very best of bitumen and its sub products, with a focus on quality management process, quantity and healthy relationship with our clients. Bitumax India is a leading bitumen company that contributes to the pavement industry of Nepal, Bangladesh and Bhutan also. Our founder, Adarsh Jaiswal established Bitumax India more than 25 years back with the aim of offering affordable price by utilizing latest technological innovation in the process of production with a long way from its beginnings in Kolkata, west Bengal (India). Bitumax India has successfully gained a reputation of credible and reliable company as it uses modern plants and machineries in its manufacturing process. The company has continuously added facilities and machining capabilities.

When Adarsh Jaiswal first started out, his passion for "a company of quality" he quit day job, do tons of research, worked hard so that Bitumax India can offer you the best quality products with competitive price. We now serve customers all over the world and are thrilled that we're able to turn our passion. We hope you enjoy our products as much as we enjoy offering them to you. If you have any questions or comments, please don't hesitate to contact us.

PRODUCT CATEGORY

Bitumen

BITUMEN VG 10 OR 80/100
BITUMEN VG 30 OR 60/70
BITUMEN VG 40 OR 30/40

Cold Bitumen

READY COLD 40/50
READY COLD MS
READY COLD

Modified Bitumen

CRUMB RUBBER MODIFIED BITUMEN
POLYMER MODIFIED BITUMEN

Bitumen Emulsion

RAPID SETTING - RS
SLOW SETTING - SS1
MEDIUM SETTING - MS

Blown Bitumen

GRADE STANDARD 10/20
GRADE STANDARD 85/25
GRADE STANDARD 90/15

Instant Road Repair

INSTA ROADFIX

BITUMEN

Bitumen is a binding organic material made from the by-products of refined crude oil. Bitumen is an important component of our world. The substance is responsible for waterproofing, sealing, and insulating different materials in a myriad of industries. It also is used in road construction because it is easy to produce, reusable, non-toxic, and a strong binders for production of Hot Mix Asphalt for construction of flexible pavements. Suitability of different types of VG bitumen depends on 7 day maximum air temperature of that region .

BITUMEN VG 10 OR 80/100

VG 10 bitumen is the softest grade of viscosity bitumen. This type of bitumen is widely used for spraying applications and surface coats. VG 10 bitumen means that your bitumen is also suitable for paving roads in a very cold climate instead of the old 80/100 penetration grade. The air temperature that matches VG 10 bitumen ranges from -100 degree C to 250 degree C. Due to the high temperatures in hot climatic zones, the application of VG 10 cannot provide desirable rutting resistance. This type of bitumen is also used to manufacture bitumen emulsions and modified bitumen products especially in India. As a viscosity grade bitumen, VG 10 has a better performance in cold weather.

BITUMEN VG 30 OR 60/70

This bitumen is primarily used for the construction of extra-heavy bitumen pavements that have to bear significant traffic loads. Bitumen VG 30 is the most widely used type of bitumen in road construction, insulation, building construction industries, and also in the production of cutback bitumen. It's better to know that this VG 30 bitumen can be used instead of 60/70 penetration bitumen grade. VG 30 bitumen is a popular grade of bitumen in India. Indian importers prefer this type of bitumen because its performance in Indian road construction is proved. VG 30 grade bitumen is also used for plastic roads in India. Because of having good thermal susceptibility, we use VG 30 in areas that have a higher temperature. VG 30 bitumen is also suitable for use in hot and rainy weather conditions instead of bitumen penetration grades. The more viscous the bitumen, the fewer the chance of being affected by water. The difference between VG 10 and VG 30 bitumen is in their viscosity level. Bitumen VG 30 is more viscous than bitumen VG 10 and as a result, performs better in road construction in hot regions .

BITUMEN VG 40 OR 30/40

VG 40 bitumen is used in areas in which high pressure comes from heavy traffic loads, such as intersections, near tolls booths, and truck parking lots. Due to the high viscosity of this bitumen, it is more appropriate for improving resistance to shoving and other problems associated with higher temperatures and heavy traffic loads. It's long time that industries use VG 40 instead of the penetration grade bitumen 40/50. The Advantages in the Application of Viscosity Grade 40 Bitumen is It suitable for a temperature above 40 degree C. It is a preferred type of bitumen when heavy traffic load is expected. The difference between VG 30 and VG 40 is that the VG 30 bitumen is suitable for mild weather and VG 40 bitumen is better to use in hot climate .

BITUMEN EMULSION

Bitumen Emulsion is a mixture of Bitumen and water and emulsifier (a surface active agent). Since bitumen cannot be mixed with water, it needs to add an emulsifier with water before adding bitumen. Emulsifier comforts breaking of bitumen into minute particles and keeps it dispersed in suspension. To produce the bitumen emulsion, water is mixed with a proper emulsifying agent. Then add bitumen with the water-emulsifier mix. The amount of bitumen to be added with water can be from 40% to 70% depends on bitumen emulsion uses. Bitumen emulsions make it easy to handle, store, transport, and apply bitumen at a lower temperature. Since this type of bitumen is liquid, there is no need to heat it before application. Moreover, applying bitumen emulsions using cold techniques reduces the consumption of energy and makes road construction environmental friendly.

RAPID SETTING - RS1

Rapid setting - RS1 bitumen emulsion is water based bitumen emulsion with low viscosity and fast setting time. RS grade bitumen emulsion is designed to react quickly with aggregate and revert from the emulsion state to bitumen. RS1 grade is mainly used for tack coat application. Rapid Setting strictly as per IS 8887:2017. It is suitable as binder for penetration macadam and sand seal. This chemical is processed using supreme class chemical compounds as per the set industry norm under utmost favorable condition.

Features

Good penetration into miniature pores of sub bases
Easy spray
Extended breaking
Better shelf life
Good adhesion properties
Better particle size distribution

SPECIFICATION	RAPID SETTING – RS1
Residue on 600 micron IS Sieve, % Max	0.05
Viscosity @ 50 ° C(Saybolt Viscometer), Sec	20 - 100
Storage Stability after 24 Hours, %	Less than 2
Coagulation at low temperature	Nil
Miscibility with water	No Coagulation
Particle charge	Positive
Residue by evaporation, percent, Min	60
Penetration 25 ° C/100g/5sec	80 - 150
Ductility 27 ° C/cm, Min	50
Solubility in trichloroethylene, percent by mass, Min	98

SLOW SETTING -SS1

Slow setting - SS1 bitumen emulsion is specially designed oil based bitumen emulsion with low viscosity and extended setting time. It is mainly used for Prime Coat and manufactured strictly as per IS 8887:2018. This chemical is processed under the utmost favorable condition keeping in industry standards. To ensure its quality, this chemical is stringently tested on various parameters. Generally SS1 used for fog seal, crack seal, & prime coat.

Features:

Superior penetration into miniature pores of sub bases
Easy spray
Extended breaking
Penetrate the cracks & crevices and impart strength to the layers
Low temperature curing
Prevents permeability of atmospheric air to the bottom layers
High adhesive properties
Binds loose aggregates together strongly
Prevents raveling and rutting
Water resistant and enhances easy drainage of water
Compatible with Portland cement
Better shelf life
Better particle size distribution
Extended setting time

Application:

Cationic bitumen emulsion to an absorptive surface (like low to medium high Porosity Wet Mix Macadam or Water Bound Macadam), designed to penetrate, plug the capillary voids in the surface, bond and stabilize the existing surface and to promote adhesion between it and the construction course that follows.

The pavements having inadequate priming of Wet Mix Macadam/Water Bound Macadam may have lesser life due to non-achievement of properties, as mentioned above.

SPECIFICATIONS	SLOW - SETTING SS -1
Residue on 600 micron IS Sieve, % Max	0.05
Viscosity @ 50 ° C(Saybolt Viscometer), Sec	20-100
Storage Stability after 24 Hours, %	Less than 2
Coagulation at low temperature	Nil
Distillation in percent volume of distillate recovered at 360 ° C at	
1 - 190 ° C	60-100
2 - 225 ° C	30-75
3 - 260 ° C	40-90
4 - 316 ° C	60-100
5 - Residue at 360 ° C, percent, Min	50
Residue by evaporation, percent, Min	50
Penetration 25 ° C/100g/5sec	60-350
Ductility 27 ° C/cm, Min	50
Solubility in trichloroethylene, percent by mass, Min	98
Miscibility with water	Immiscible
Water content, percent by mass, Max	20
Particle charge	Positive
Stability to mixing with cement (percentage coagulation) Max	02

MEDIUM SETTING - MS

Medium-Setting - MS bitumen emulsion is designed for mixing with coarse aggregates and is ideal in premix. Product is so formulated that it does not break immediately upon contact with aggregates and provides few minutes of workable time for fixing aggregates. This type of emulsion is highly recommended for surface dressing work. It is manufactured strictly as per IS 8887:2018. Our bitumen is processed using sophisticated technology and quality tested chemical compound in conformity with the predefined industry standards.

Features:

- No heating required
- Environment friendly
- Economical
- Ease in application
- Bond with existing surface
- Least interference with traffic
- Bonds well to cool, damp surfaces
- Low temperature cure
- Stable patches
- Resistance to peel off under traffic
- Resistance to stripping by water
- Minimal preparation time for surface repair
- Instant setting and fast development of strength
- Better shelf life
- Good adhesion properties
- Better particle size distribution

Application:

Medium setting - MS is used for plant or road mixes with coarse aggregates minimum 80 percent, all of which is retained on 2.36 mm IS Sieve and practically none of which pass 180 microns IS Sieve, and also for surface dressing and penetration macadam.

Maintenance Mix: This high quality material now makes it possible to fill pot holes or carry out patch repair with open graded cold premix made on-site. The methods typically used for the repair of pot holes using asphalt emulsions are throw-and-roll and full-depth removal and replacement. All of these methods involve placing cold mix in the pot hole with a shovel and compacting with a truck tire, vibratory plate compactor or steel wheeled roller.

Premix Carpet: For economical and fast construction of wearing course, emulsion is used for Premix Carpet. Ministry of Road Transport & Highway (MORT&H) has also recommended use of emulsion for this application in their clause 506.2. A tack coat is applied on the cleaned surface. The cold mix is prepared as per the above method and spread over the existing surface followed by either liquid seal coat or a premix seal coat.

SPECIFICATION	MEDIUM SETTING - MS
Residue on 600 micron IS Sieve, % Max	0.05
Viscosity @ 50 ° C(Saybolt Viscometer), Sec	50 - 30
Storage Stability after 24 Hours, %	Less than 1
Coagulation at low temperature	Nil
Residue by evaporation, percent, Min	65
Penetration 25 ° C/100g/5sec	60 – 150
Ductility 27 ° C/cm, Min Ductility 27 ° C/cm, Min	50
Solubility in trichloroethylene, percent by mass, Min	98
Miscibility with water	No Coagulation
Particle charge	Positive

COLD BITUMEN EMULSION

Cold bitumen emulsion is, just like hot mix bitumen, commonly used on low traffic roads or rural roads. Cold bitumen emulsion is produced by emulsifying the asphalt with water and an emulsifier agent, before mixing it with aggregates, to make the asphalt less viscous so that the mix is easier to work with. The mix could be the one comprising of bitumen emulsion, and virgin aggregates or reclaimed asphalt pavements/milled pavements, though the latter would be cost effective. They are used for repairing potholes as well as worn out flexible pavements. Cold mix asphalt also works along flexible pavements and can be produced, either on-site or at mixing plants.

FEATURES & BENEFITS OF COLD BITUMEN EMULSION :

There are a wide range of benefits which makes cold bitumen emulsion a preferred option. These include the following:

1. Economical:

- A. Cold bitumen emulsion is economical as compared to hot/warm mix bitumen, as this method eliminates the need to heat the aggregates.
- B. Using cold bitumen emulsion is cost effective as compared to hot/warm mix bitumen, due to the fact that the mix can be applied directly from the container.

2. Easy to use:

- A. No special high tech machinery required as the standard paving equipment can be used for paving.
- B. Design of the mix can be altered and determined depending on the type of the aggregate type, climatic condition of the geography of the location it is to be applied.
- C. The mix can be used even when the ambient temperature drops, thus reducing the requirement of maintaining the temperature of the bitumen. So it can be used in all weather conditions.

3. Environmental Friendly:

- A. As it doesn't need to be heated like the hot/warm mix bitumen, it eliminates the emissions.
- B. This also reduces the carbon footprint left behind after the process.

BENEFITS OF BITUMAX INDIA FOR COLD BITUMEN EMULSION :

High-performance cold bitumen emulsion is the need of the industry. Bitumax organosilane technology formulated with cationic bitumen emulsion shows improved uniform coverage, reduced clogging of nozzles, improved spray rate and faster setting. We offer bitumen emulsion additives for cold bitumen emulsion to our clients for improved coating efficiency, preventing stripping of the mixes, higher oxidation resistance and better fatigue resistance. We specialize in offering eco-friendly technologies that facilitate sustainable road construction, with improved performance.

PRODUCT RANGES :

READY COLD 40/50
READY COLD MS
READY COLD

BLOWN BITUMEN

Blown bitumen grades or Oxidized bitumen are produced by passing air through the penetration grades. This process gives the bitumen more rubbery properties than its original formula and they are simply harder bitumen. It is mainly used for industrial purposes, such as roof insulation, flooring, industrial mastics, pipe coating, and paints and also for road construction.

We are offering our client an excellent quality range of Blown Grades. The consistency of bitumen is defined by means of two tests the penetration test & the softening point test. In practice the different grade are designed by their penetration. With increasing pen value during oxidation process was content in the bitumen reduces so that classic composer properties increase which behaves like rubber by that way deformation under road is increase. We are also capable of producing other grades of Blown Bitumen upon request by our customers.

Blown Bitumen Manufacturing Method

Blown Bitumen is produced by either Continuous or Staggered Blowing Process. Heated Penetration Grade Bitumen up to 300 deg C under controlled environment is blown with air in the Chimney / Tower. This process removes the Oil Content in the Bitumen and it is oxidized. Fuel oil is added to the process to make the penetration higher if it is required to do so.

The blown bitumen, still at the higher temperature, to be handled carefully and packed into Bags or drums as required. The associated safety and workplace hazards need to be handled efficiently. The different grades for suited applications produced are designated by two numbers to indicate the mid-points of their softening point and penetration ranges.

Oxidized Asphalt Manufacturing Method

Chemicals are added in order to decrease the time for the reaction time for blowing which shall have better control over the blowing conditions to produce different grades of Oxidized Bitumen with low capital investment.

Blowing is preferably done from the bottom of the Chimney/ Tower and the Temperature can be controlled by Water Jacketing.

Technical Advantages of Blown Bitumen or Oxidized Bitumen

- Durability
- Flexibility
- Water Resistant
- Chemical Stability

Packing

Packing is done when the final product temperature brought down to 160 degrees in bags with Moulds or in steel drum before it cools down to room temperature and become solid.

PRODUCT RANGES:

- GRADE STANDARD 10/20
- GRADE STANDARD 85/25
- GRADE STANDARD 90/15
- & MANY MORE

MODIFIED BITUMEN

Prominent & Leading Manufacturer from West Bengal, we offer polymer modified bitumen and crumb rubber modified bitumen.

CRUMB RUBBER MODIFIED BITUMEN

Supported by highly experienced professionals, we have emerged as an affluent organization for offering exclusive collection of Crumb Rubber Modified Bitumen. It can be used for wearing courses at heavy trafficked roads, busy intersections, bridge decks and roundabouts for increased life of the surfacing. This bitumen is processed as per the set industry norms under the guidance of skilled professionals. We offer this bitumen in different packaging option as per the requirements of clients. Our quality analyst tests our offered product on various predefined industry norms in order to ensure flawless at users end.

Features:

Lower susceptibility to daily & seasonal temperature variations
Higher resistance to deformation at elevated pavement temperature
Better edge resistance properties
Better adhesion between aggregate & binder ensure longer life, strength & stability
Higher fatigue life of mixes due to high elastic recovery
Delay of cracking & reflective cracking
Overall improved performance in extreme climate conditions & under heavy traffic condition
Better water resistance
Prevents rutting
Resistance to creep & higher indirect tensile strengthen surface course

Applications:

CRMB can be used for wearing courses at heavy trafficked roads, busy intersections, bridge decks and roundabouts for increased life of the surfacing.

Types of CRMB & Recommendation for specific use:

CRMB 60: recommended for hot climate areas
CRMB 55: recommended for moderate climate areas
CRMB 50: recommended for cold climate areas

SPECIFICATIONS				
Mixing / Coating	170 – 185 °C			
Laying	150 – 170 °C			
Beginning of compaction	Over 140 °C			
End of compaction	110 – 120 °C			
Designation	Grades & Requirements			Test Method
	CRMB 50	CRMB 55	CRMB 60	
Penetration at 25 °C	< 7	< 6	< 5	IS 1203-1978
Softening point, (R & B), °C Min	50	55	60	IS 1205-1978
Elastic recovery of half thread in Ductilometer at 15 °C, % Min.	50	50	50	IS 15462-2004
Flash point °C Min.	220	220	220	IS 1209-1978
Separation difference in softening point, (R & B) °C Max.	04	04	04	IS 15462-2004
<u>Thin Film Oven Test (TFOT) on residue</u>				
A - Penetration at 25 °C, Min. % of original	60	60	60	IS 1203-1978
B - Increase in softening point, °C Max	07	06	05	IS 1205-1978
C - Elastic recovery of half thread in Ductilometer at 25 °C, % Min	35	35	35	IS 15462-2004

POLYMER MODIFIED BITUMEN

We are providing our clients an excellent quality Polymer Modified Bitumen. Which meets the requirements in accordance with PMB of IS 15462-2004 specifications designed for pavement applications. Heavy traffic intensity in terms of commercial vehicles, overloading of trucks and significant variations in daily & seasonal temperature of the pavement have been responsible for early development of distress symptoms like raveling, undulations, rutting, cracking, bleeding, shoving & potholing of bituminous surfaces. The offered range is processed in line with industry standard utilizing supreme class chemical compounds under the supervision of skilled professionals. This bitumen can be availed in various packaging options provided to our renowned clients, as per information laid down by them. Moreover, this bitumen can be availed at affordable prices from us.

Features:

Our PMB ensures
Durable surface characteristics
Excellent anti-stripping properties
High cohesiveness
High stiffness modulus leading to greater resistance to permanent deformation
Improved bonding between bituminous layers
Improved fatigue resistance than increased resistance to reflective cracks

Application:

Polymer Modified Bitumen can be used in asphalt mix designs which result in the manufacture of cohesive asphalt mix with good elasticity suitable for type of traffic. Special attention to be given to the temperatures while manufacturing, lying and compaction are performed.

Types of PMB & recommendation for specific use:

PMB 120: recommended for cold climate areas

PMB 70: recommended for moderate climate areas

PMB 40: recommended for hot climate areas

SPECIFICATIONS				
Designation	Grades & Requirements			Test Method
	PMB 120	PMB 70	PMB 40	
Penetration at 25 °C	90-50	50-90	30-50	IS 1203-1978
Softening point, (R & B), °C Min	50	55	60	IS 1205-1978
Elastic recovery of half thread in Ductilometer at 15 °C, % Min.	70	70	70	IS 15462-2004
Flash point °C Min.	220	220	220	IS 1209-1978
Separation difference in softening point, (R & B) °C Max.	03	03	03	IS 15462-2004
<u>Thin Film Oven Test (TFOT) on residue</u>	35	35	35	IS 1203-1978
A - Penetration at 25 °C, Min. % of original				
B - Increase in softening point, °C Max	07	06	05	IS 1205-1978
C - Elastic recovery of half thread in Ductilometer at 25 °C, % Min	50	50	50	IS 15462-2004

INSTANT ROAD REPAIR

Instant road Repair pothole patching compound offers the best solution to the road contractors and others to fill potholes and repair roads. Our skilled chemists & technicians know the region-specific formulas to develop a premium quality of instant road repair compound. Use our instant road repair pothole patching formula to make sure the patch lasts longer year-round on roads, driveways, highways and more. To be the leading manufacturers and suppliers of instant road repair compound in West Bengal, Our road repair patch solutions wipe out a pothole and save repair costs also. Instant Road repair compound solution is ready to use for Pot-hole, easy application, and release traffic instantly. Grades available from 3mm to 10mm. All weather suitable, running successfully across the world.

INSTA ROADFIX

Insta Roadfix is a revolutionary product for repairing Potholes, Edge Deformations and Trench Work. It is used for filling normal/small potholes approximately 0.5 sq. Meter in size. This road repair material can be used by road contractors and others to fill potholes and repair roads.

Insta Roadfix is manufactured with the clean graded aggregate and specially designed Bitumen Emulsion and packed in an airtight double laminated bag. The pothole filling material is easy to use and very cost-effective. Insta Roadfix is a convenient product for Pothole Repair work in all weather condition.

Features:

For permanent road repairs in heavy trafficked road >100mm depth
Use in all weathers, climates and temperature
No waste
Coverage : approx. 1m² at 12-15mm

Benefits of Insta Roadfix:

Simple Application
Green Technology
Open traffic immediately
Quick Turnaround
No specialized machine required
Mixing or Heating not required

Insta Roadfix comes in convenient ready to use packing of 25/50 kg net HDPE bags with inside LDPE liner.

REQUIRMENT / TEST NAMES	LIMITS
Wet Coating	Minimum 98 %
Static-Immersion Test	Minimum 95 %
Water Resistance	Minimum 90 %
Workability Test	Good

Method of Applying the pothole filling material:

Step 1: Mark the pothole along with the weak areas in their vicinity.
Step 2: Cut the edges along the marking and remove the loose material till the damaged depth.
Step 3: Remove stagnant water using cloth/gunny bag.
Step 4: Apply a tack coat on the base and sides using RS1 emulsion @ 0.5 kg / sq. meter.
Step 5: Cut-open Insta Roadfix bags and fill the pothole up to a level slightly higher than the adjoining road surface.
Step 6: Compact the pothole with roller or hand rammer.
Step 7: Traffic may be allowed immediately after covering up the top surface with stone dust, lime or grass/leaves.



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