



# **Offshore**

*Cool solutions for tough roads*



Manufacturer & Supplier of

## **Offshore™**

Bitumen Emulsions, Modified Bitumen & Allied Products

## Company Overview :

**Offshore™ Petrochem Pvt. Ltd.** is a premier company engrossed with the Manufacturing and Marketing of Bitumen Emulsion, Modified Bitumen and all other types of bituminous derivatives.

**Offshore™ Petrochem Pvt. Ltd.** is a part of INDIA TRADE LINKS Group of companies. Shri B. S. Nayyar promoted INDIA TRADE LINKS Group in 1989 and the group has flourished ever since. The group is engaged in diverse business activities in the last two decades such as Bitumen & akin, Industrial fuels, Industrial Solvent and Petrol pumps etc. In 2005 India Trade Links Group established its first manufacturing plant in the outskirts of Mumbai at Sirshad (Virar), Tah.-Vasai, Dist.-Thane, Mumbai (Maharashtra) under the name of “Offshore Bitumen”. This plant is successfully providing various high quality bituminous products such as Bitumen Emulsions, Modified Bitumen and Industrial Bitumen etc. ever since. Offshore Bitumen is professionally managed company having vast experience in the field of Bitumen products manufacturing with consistent maintaining its strong hold in the competitive market, due to high quality, reliability and customer satisfaction.

In 2013, it has put up a second, state of the art manufacturing unit at A.K.V.N. Borgaon, Sausar, Chhindwara (Madhya Pradesh) with new name of “**Offshore™ Petrochem Pvt. Ltd.**”, which thrives with the manufacturing and marketing of specially formulated Bitumen Emulsions, Modified Bitumen and other bituminous product with having BIS License. The Laboratory in our plant is fully equipped with latest Testing Equipments to test our products as per IS specifications with highly experienced chemist.

With the expertise in the field of production and distribution of Bitumen Emulsion products across the local and national boundaries, **Offshore™ Petrochem Pvt. Ltd.** is now all set to cater with the requirements of its diverse and wide range of clientele through its own Modern fully automatic production unit. The upcoming, new in house, production unit promises to satisfy the requirements of the clients as per their specifications and would maintain its trend of being eco-friendly.

**With due consideration to our years of experience in the field, allow us an opportunity to serve you better through our new manufacturing unit - OFFSHORE™ PETROCHEM PVT. LTD. and let us live up to your expectations.**

### The Products:

#### Offshore™ Bitumen Emulsion

An Emulsion can be defined as a dispersion of small droplets of one liquid in another liquid. Bitumen emulsions generally belong to the oil-in-water type of emulsions where bitumen is liquefied by dispersing in water with the aid of a small quantity of emulsifying agent.

Bitumen emulsions derive their main use in road construction & maintenance because of their safety, ease in handling and excellent adhesion properties. Emulsions can be used with cold and wet aggregates. In many road applications emulsions provide a safer and environmentally friendlier system than hot bitumen since the risks of fire, burns and emissions are avoided and the processes use less energy.

**Offshore™** Bitumen Emulsion is available as Anionic, Cationic and Nonionic types. Usually, it is the type of aggregate and climate that defines what type of Bitumen emulsion should be used. Cationic Emulsion represents more than 95% of the world consumption today because of their better overall performance.

#### Classification of

#### Offshore™ Bitumen Emulsions

**Offshore™** Cationic Bitumen Emulsions are classified into five grades as per their settings for different applications. They are:

- Rapid Setting-1 (RS-1) – It is specially recommended for Tack Coat applications, as binder for Penetration macadam and Sand seal.
- Rapid Setting-2 (RS-2) – It is recommended for Surface dressing and Penetration macadam.
- Medium Setting (MS) -- It is used for Pot holes & Patch Repair work, Surface dressing, Plant or Road mixes with coarse aggregates and penetration macadam.
- Slow Setting-1 (SS-1) – It is used for Prime Coat, Fog Seal and Crack Seal applications.
- Slow Setting-2 (SS-2) – It is used for Slurry Seal, Road Mixes and Prime Coat applications.

## Applications of Offshore™ Emulsified Bitumen

### Penetration Macadam

Penetration macadam is a base construction of compacted crushed rock (macadam), which is sprayed over with bitumen Emulsion. If the penetration macadam is to be used by traffic before placement of surfacing, a thin layer of medium sized aggregate should be applied. Bituminous premix or surface dressing are used as wearing course on penetration macadam, normally medium setting emulsions are used.

### Prime Coat

This consist of the spray application of Bitumen on the crushed rock, laterite or earth base that needs to be made waterproof. One can use cationic type of slow setting emulsion as per IS:8887, that may be fluxed with solvent to induce rapid penetration.

### Tack Coat

The tack coat is the sprayed application of an emulsion on top of a surface where a new bitumen layer needs to be applied. this layer assures proper adhesion of the new layer to the old surface. Cationic emulsion can be used for this process with either a 50% of 60% residual binder content.

### Slurry seal

Here, The bitumen Emulsion is mixed with quarry dust, cement and additives and spread over the weathered pavement by the use of a slurry machine in thickness of 3mm to 12mm. The rolling is generally not necessary. Unlimited traffic. In recent years slurry seal has gained popularity and used on highways with high intensity traffic to residential streets. It is used on airport due to high-speed resistance. Normally slow or medium setting emulsion are used.

### Fog Seal

A fog spray is a very light application of low viscosity Bitumen Emulsion for purpose of sealing cracks less than 3mm wide or incipient fretting of disintegration in an existing Bituminous surface. The process also helps reduce loosening of chips by traffic on a newly finished surface dressing.

The fog seal is to be applied at a rate of 0.5 to 1.0 Ltr/m<sup>2</sup>, using equipment such as pressure tank, flexible hose and spray bar or lance. Slow setting emulsion are used.

### Surface Dressing

Emulsion are replacing cut backs as surface dressing binder as they have several advantages. Surface dressing with emulsion is 40% to 50% less expensive than normal bituminous pavements, and is long lasting with proper drainage provision. The process involves spraying of Bitumen Emulsion on the road surface by normal distributor, an aggregate cover laid by an aggregate preader follow and than compacting rolls follow up. Slow traffic can move on to road after 30 minutes of time. Surface dressing can be either single of multi layers. Normally rapid setting emulsion are used for surface dressing.

### Other Applications

- Soil Stabilization
- Curing
- Dust Binding
- Crack Fillers
- Cold Mix
- Recycling etc.

## Advantages of Offshore™ Bitumen Emulsion

- Bitumen Emulsion applications provide better result even in damp conditions and develops its final strength rapidly.
- Emulsions can be used without additional heating.
- It can be used in any season
- Environmentally friendly.
- Choice of viscosity for different applications.
- Requires less energy to produce.
- Lower cost for Road construction & maintenance.
- Bitumen Emulsion provides exceptional surface texture, water impermeability and some resistance to cracking and enhances durability and chip loss.

## Offshore™ Modified Bitumen

Modified Bitumen is bitumen with the incorporation of certain additives or blend of additives. These additives are called “Modifiers” and the bitumen premixed with these modifiers is known as “Modified Bitumen”. These additives help in further enhancing the properties of bituminous pavements. Pavements constructed with Modified Bitumen last longer which automatically translates into reduced overlays. Pavements constructed with Modified Bitumen can be economical if the overall life cycle cost of the pavement is taken into consideration.

Modified bitumen performs better than ordinary bitumen in high rainfall areas and in situations, where the aggregates are prone to stripping. Due to their better creep resistance properties, they can also be used at busy intersections, bridge decks and roundabouts for increased life of the surfacing.

### Classification of Offshore™ Modified Bitumen

Offshore™ Modified Bitumen classifies the Polymer and Rubber modified bitumen into the following four types:

- PMB (P) – Plastomeric thermoplastic based.
- PMB (E) – Elastomeric thermoplastic based.
- CRMB – Crumb rubber/treated crumb rubber based.
- NRMB – Natural rubber and SBR latex based.

### Advantages of Offshore™ Modified Bitumen

- Lower susceptibility to temperature variations.
- Higher resistance to deformation at high pavement temperature.
- Better adhesion between aggregates and binder.
- Increase in fatigue life of mixes.
- Delay of cracking and reflective cracking.
- Better age resistance properties.
- Overall improved performance in extreme climatic conditions and under heavy traffic conditions.

## Offshore™ Industrial Bitumen

Industrial Bitumen is a dark, petroleum residue modified by the oxidation process. Its consistency ranges from highly viscous to solid. Industrial Bitumen is a safe and inexpensive material which has multiple uses in industry and a wide range of applications and has characteristics of Waterproofing, Plasticity, adhesion and resistance towards acid and alkalis. It also makes an efficient electrical insulator, because it has excellent dielectric strength.

Industrial grade bitumen is also known as blown bitumen. This is obtained by blowing air into hot bitumen at high temperatures (normally beyond 180°C). Blowing air into hot bitumen at high temperatures results in structural changes in bitumen. Esters are formed in this process and these esters link up two different molecules and higher molecular weight materials increases drastically. In the process the asphalt content is increased which in turn results in higher softening points and very low penetration number.



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## OFFSHORE PETROCHEM PVT. LTD.

(A unit of INDIA TRADE LINKS Group)

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