



HIND EMULSION

PRODUCT DATA SHEET

COLD APPLIED CATIONIC BITUMINOUS EMULSION

DESCRIPTION

Hind Emulsion is a cationic emulsion, widely used and most popular due to its unique properties to absorb on to a wider range of mineral aggregates in comparison to the Anionic emulsion. It has better adhesion to mineral aggregates, sets readily on all but the most electro-positive aggregates and is effective to be used in all weather conditions. **Hind Emulsion** are available in three grades **Rapid Setting (RS)**, **Medium Setting (MS)** and **Slow Setting (SS)**. **Hind Emulsion** is very effective for **CMA (Cold Mix Asphalt)** concrete conforming to **IS: 8887: 2018**.

Rapid Setting (RS) grade of **Hind Emulsion** is so designed that it react quickly with aggregate and revert from the emulsion state to bitumen. It is used primarily for tack coat application and in spray applications, such as aggregate (chip) seals, surface treatments, asphalt penetration macadam and grouting.

Medium Setting (MS) grades of **Hind Emulsion** is designed for mixing with coarse aggregates and is ideal in premix. Since this grade do not break immediately in contact with aggregate, MS grade used in aggregates remain workable for a few minutes. The MS grade have high viscosity to prevent runoff. This type of emulsion is highly recommended for surface dressing work.

Slow Setting (SS) grade is designed for maximum mixing stability. This is used with very high fine dense - grade aggregates. Slow setting grade have low viscosity that can be further reduced by adding water. This blend can be diluted (up to 50%) for prior coats, fog seals, slurry surfacing and dust palliatives.

USES

- Largest use of **Hind Emulsion** is surface dressing. Important properties of **Hind Emulsion** are stability, viscosity, breaking and adhesiveness.
- **Hind Emulsion** is used as a tack coat / grouting, lean mix curing, patching, sealing of formations and sub bases.
- It is stable under storage and transport conditions and will break on application leading to the bitumen content adhering strongly to the road / patches and/or chippings.
- It has low viscosity for easy application and handling.
- **Hind Emulsion** flows to minimize irregular spraying but will not flow due to road irregularities, cambers or gradients.
- Emulsifiers change surface dependent properties like rate of breaking and the adhesive property.

ADVANTAGES

- Economical, Eco & user friendly, free from pollution and non-toxic in nature.
- Since it is cold applied, there is no requirement of special equipment like boiler, pre-mix plant, etc. Fuel and labour are saved for heating and avoids fire hazard.
- Application can be done in all weather conditions including rain but not to be applied in frost and heavy downfall.
- Retains fluidity until the penetration in the aggregate mass is completed and, hence, no possibility of using excess bitumen, which weakens the binder.

APPLICATION

- **Hind Emulsion** is applied cold at ambient temperature. Two bitumen particles in a **Hind Emulsion** will coalesce if they come into contact. The contact of two particles is prevented by electric charge repulsion and the mechanical protection offered by the emulsifier. Any effect that overcomes these forces will induce flocculation and coalescence. Flow of the **Hind Emulsion**, caused by pumping, heating (convection currents) or transport is one such effect. Some emulsifiers have a tendency to foam, which is, itself, a potential cause of coalescence since bitumen particles in the thin film of a bubble are subjected to the forces of surface tension.
- The surface should be cleaned of loose aggregates and dust before application. For better results, the surface should be slightly dampened with clean water immediately before application. Fluidity remains until penetration is completed and no additional material is required to ensure penetration.
- Brush, spray and other tools are recommended for application and should be cleaned with water prior to, and after their use to avoid contamination/breaking of **Hind Emulsion** on them. No brushing over **Hind Emulsion** to be done till its colour is changed turned black. Workers should not be allowed to walk over uncovered area where **Hind Emulsion** has been applied till it breaks and forms a black surface.

PROPERTIES

Specification : IS – 8887/2004

Characteristic	Grade of Emulsion		
	RS-2	MS	SS-2
Residue on 600 micron, Sieve, percent by mass, Max	0.05	0.05	0.05
Viscosity by Saybolt Furol viscometer, seconds:			
• At 25 °C	-	-	30-150
• At 50 °C	100-300	50-300	-
Coagulation of emulsion at low temperature	NIL	NIL	NIL
Storage stability after 24 hr, %	1	1	2
Coating ability and water resistance:			
• Coating, dry aggregate	-	Good	-
• Coating, after spraying	-	Fair	-
• Coating, wet aggregate	-	Fair	-
• Coating, after spraying	-	Fair	-
Particle Charge	+ve	+ve	+ve
Stability to mixing with cement (percentage coagulation), Max	-	2	2
Miscibility with water	No Coagulation	No Coagulation	No Coagulation
Tests on residue:			
• By evaporation, %, Min	67	65	60
• Penetration at 25 OC, 100 gm, 5 sec.	80-150	60-150	60-120
• Ductility 25 OC C/Cm, Min	50	50	50
• Trichloroethylene Solubility, mass, Min	98	98	98
Distillation in percent, by volume at,			
• 190 °C	-	-	-
• 225 °C	-	-	-
• 260 °C	-	-	-
• 315 °C	-	-	-
Water content, percent by mass, max	-	-	-

PACKING

Hind Emulsion is available in 200 Kg HDPE Container / Steel (Second Hand) drums.

SHELF LIFE

Best before 12 months from the date of manufacture. Should be stored in a cool and dry place covered from direct sunlight and at temperature ranging between 5⁰ C (Min.) and 35⁰ C (Max.). It should be protected from frost.

HANDLING PRECAUTION

Hind Emulsion is non-toxic but ingestion is to be avoided. Any splashes to the skin must be washed with water. If contact with eyes occurs, wash well immediately with water and seek medical advice.

Note:

- **Hindcon Chemicals** maintains a team of technically trained professionals to provide full support to your problems in construction, and recommend the correct product to suite your specific requirements. Our authorized applicators can attend your site for application of the products.
- The content of the Technical datasheet are for general information and guideline. The result shown here are generated from our laboratory or from our site experiences.
- Quality of our products are maintained as per ISO9001:2008 recommendations and continuous researches. The behavior can change as per the prevailing conditions at the time of applications.
- Since **HINDCON CHEMICALS LIMITED** has no control over the use to which the users may put the material, it does not claim or warrant that in the user's particular circumstances, the result that the user will obtain from the product will be the same as those described in this communication or that the user will find the information or recommendations complete, accurate or useful. The client must test and ascertain the safety and fitness for the product for use.
- The right to change the properties of the products is reserved with us. The proprietary rights of third parties must be observed. All orders are accepted subject to the terms of sale and delivery. Users must always refer to the most recent issue of the latest Data Sheet for the product concerned, copies of which will be supplied on request.

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