

# SS - 1H Emulsion

Successful performance of asphalt emulsions requires selecting the proper type and grade for the intended use. Guidelines should be considered when selecting the specific grade and type of emulsion to be used. Some of the factors that affect the selection of the proper type of emulsion to be used are:

- \* Climatic conditions anticipated during the work.
- \* Geographical location: hauling distance, water availability, etc.
- \* Environmental considerations.
- \* Aggregate type and availability.
- \* Construction equipment availability.
- \* Traffic control considerations.
- \* Type of work: slurry, cold-in-place, re-mix, prime, fog seal, tack, etc.

While guidelines can be given for selecting the proper type of emulsion to be used, laboratory testing is strongly recommended. There is no good substitute for laboratory evaluation of the emulsion and the aggregate to be used. This brief product overview is not intended to supersede any project specifications. Contact Reed & Graham for further assistance with emulsion questions.

The **slow-setting grades (“SS” types)** have long work-ability times to ensure good mixing times. All slow-setting grades have low viscosities (flow) that can be further reduced by adding water. These grades, when diluted, can be used for tack coats, prime coats, and fog seals. The SS grade of emulsion depends entirely upon evaporation of the water for curing.

The SS-1H emulsion product is designed and formulated to be used for a **tack coat prior to paving** with asphalt, for **priming base rock prior to paving** with asphalt, or as a **fog seal for newly placed asphalt**. Normally, SS-1H is diluted prior to application to reduce viscosity for spraying, to allow filling of small cracks or voids, and to accurately apply small quantities of residual asphalt per square yard. The following list defines the proper use of SS-1H:

**Tack Coat:** A spray application of SS-1H applied to an existing asphalt surface prior to a new asphalt overlay or patching to eliminate slippage and to provide a bond between new and existing pavement layers. The objective is to apply a uniform coverage of residual asphalt, just sufficient to provide a thin, tacky, adhesive film, yet not in excess which would create runoff or a future slippage plane. The tack coat should be allowed to break before application of the overlay or surface treatment.

**Prime Coat:** A spray application of SS-1H applied to an absorbent surface or granular base, in preparation for an asphalt surface. The objective is to apply a uniform coverage which would create a bond on the base rock, and would seal the surface to prevent any possible erosion. The prime coat should be allowed to break and set prior to application of the asphalt surface being applied.

**Fog Seal:** A light spray application of diluted SS-1H used primarily to seal new asphalt surfaces to reduce raveling and to delay weathering. The objective for proper application of fog seal is to apply a uniform coverage of emulsion, just sufficient to flow into and seal the pavement pores, small cracks, and voids against water and weathering.

# SS-1H Emulsion Specifications

Tests on **SS-1H** Emulsion:

			Test Method
Viscosity, SSF @ 25 C, sec.	Min 20	Max 100	T59
Settlement, 5 days, %		Max 5	T59
Storage Stability Test. 24-H, %		Max 1	T59
Cement mixing test, %		Max 2.0	T59
Sieve test, %		Max 0.10	T59
Residue by distillation, %	Min 57		T59

Tests on Residue from Distillation Test:

Penetration, 25C	Min 40	Max 90	T59
Ductility, 25C, 50mm/min., mm	Min 400		T59
Solubility in Trichloroethylene, %	Min 97.5		T59

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## SS-1H Emulsion: Requirements for Application

**SS-1H** emulsion is designed to meet all State of California Standard Specifications, Section 94. When **SS-1H** emulsion is used as a tack coat prior to paving, as a prime coat prior to paving, or as a sealer on new asphalt or as a resealer on old asphalt, a few points must be considered:

1. The surface to be sprayed should be free from dust, loose or foreign matter and any foreign material which would hinder the adhesion of the emulsion.
2. The **SS-1H** emulsion should not be applied during periods of cold or wet weather. Best results are obtained if the road surface is dry, has a temperature above 80 degrees F, and there is no threat of rain.
3. When using **SS-1H** for tack coats or prime coats, it is recommended that the emulsion is cut with warm water at a ratio of one part water to 3 parts emulsion (25% cut). For seal coats, the **SS-1H** emulsion must be cut with equal parts warm water (50% cut).
4. The goal is a very thin but uniform coating of asphalt left on the surface when the **SS-1H** emulsion has broken. For seal coats, the recommended coverage rate is for one gallon of **SS-1H** to cover 90 or more square feet.
5. A properly calibrated emulsion distributor or a hand sprayer should be used for spraying the **SS-1H** emulsion. The spray device must be free of any contaminants which can harm the emulsion.
6. Curing time for **SS-1H** emulsion is up to 24 hours, especially on cloudy days or in shady areas. Caution should be taken to keep water off the surface during curing time.
7. For seal coats, the **SS-1H** should be applied to a porous, not a tight or dense surface. The **SS-1H** emulsion should not be applied yearly, but rather every three to four years.