

GSB 88[®] Tech Sheet

GSB-88[®] EMULSIFIED SEALER/BINDER

Technical Instructions & Specifications

Product Description:

GSB-88[®] Emulsified Sealer/Binder is a chemically engineered asphalt preservation product comprised of a cationic emulsion with Gilsonite, rejuvenators and specially selected plasticizers. This chemical colloid stabilized emulsion has been specifically formulated for sealing asphalt parking lots, city streets, roads, highways, airport aprons, taxiways, and runways. GSB-88[®] provides a durable yet flexible seal coat, while special plasticizers and oils penetrate the service binders. The result is an emulsified sealer/binder that restores vital components to asphalt which are lost during the aging and oxidation process, providing a long wearing anti-oxidative seal. GSB-88[®] also helps to rebind the surface and thereby mitigate raveling issues. It dries to an absolute black color, which beautifies the pavement surface and provides tangible cosmetic benefit. Furthermore, GSB-88[®] has achieved Green Circle Certification[®], which compares the lifespan of a standard asphalt road without GSB-88[®] treatments and a road with GSB-88[®] treatments. (Reference: Environmental Product Declaration)

Availability: GSB-88[®] is available in either a concentrate or ready to use form. The concentrate form allows large shipments via tank truck, ISO container, and flextank or railroad tank car. The concentrate form must be diluted with hot water prior to application.

Specifications:

GSB-88[®] is available in either a concentrate or ready to use form. The concentrate form allows large shipments via tank truck or railroad tank car. The concentrate form must be diluted with water prior to application.

Specifications for GSB-88[®] Concentrate are as follows:

Saybolt Viscosity at 77°F (25°C) ASTM D-244. 20 to 100 seconds

Residue by Distillation, or Evaporation. 57% min.

Sieve test ASTM D-244 (one tenths of one %) 0.1%

5 day Settlement test ASTM D-244. 5.0% max.

Particle charge (1) ASTM D-244 Positive

Specifications for GSB-88® Ready-to-Apply:

ONE PART EMULSION TO ONE PART WATER

Saybolt Viscosity at 77°F (25°C) ASTM D-244 10 to 50 sec.

Residue by Distillation, or Evaporation. 28.5 minimum

Pumping Stability test (2). Pass

TWO PARTS EMULSION TO ONE PART WATER

Saybolt Viscosity at 77°F (25°C) ASTM D-244	10 to 50 sec.
Residue by Distillation, or Evaporation.	37.5 minimum
Pumping Stability test (2).	Pass

Tests on Residue from Distillation, or Evaporation:

Viscosity astm 275°F (135°C) ASTM D-4402 1750 cts max.

Solubility in 1,1,1 trichloroethylene ASTM D-2042 97.5% min.

Penetration ASTM D-5 50 dmm max.

Asphaltenes ASTM D-2007. 15% min.

Saturates ASTM D-2007. 15% max.

Polar Compounds ASTM D-2007 25% min.

Aromatics ASTM D-2007 15% min.

Gilsonite Content.....20% min

- (1) pH may be used in lieu of the particle charge test which is sometimes inconclusive in slow setting, bituminous emulsions.

- (2) Pumping stability is tested by pumping 1 pint, (475 ml) of GSB-88® diluted 1 part concentrate to 1 part water, at 77°F (25°C), through a 1/4inch gear pump operating 1750 rpm for 10 minutes with no significant separation or coagulation.

Storage and Handling Instructions

GSB-88®

GSB-88® is to be stored in vertical storage tanks and shall be handled like any standard asphalt emulsion. The storage tank should be equipped with a slow revolution mechanical agitator. Hot water heating coils, electrical coils, or electrical heaters are required in colder climates to prevent the emulsion from freezing. Positive displacement gear pumps should be used to transfer and apply GSB-88® materials. Storage and handling temperature are 50°F (10°C) to 160°F (71°C). GSB-88® should be protected from freezing, or whenever outside temperature drops below 40°F (4°C) for prolonged time periods.

Application Instructions

Equipment: GSB-88® is to be applied with standard bituminous distributors. The equipment must be in good working order, and contain no contaminants or dilutents in the tank. Spreader bar tips must be clean, free of burrs, and adjusted for regulated flow. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process. The equipment should be tested under pressure for leaks and to insure it is in working order before use. No special mixing equipment is necessary since GSB-88® concentrate may be easily diluted with water in the spreader tank.

Dilution: GSB-88® concentrate must be diluted with heated potable water prior to application to asphalt pavements. Always add the water to the concentrate emulsion, never add concentrate emulsion to the water. Two dilution rates are recommended as follows:

1 part GSB-88® to 1 part water for most applications is recommended.

2 parts GSB-88® to 1 part water for use on hills where run off may be of concern, or on very rough surface texture pavements.

Polymer Addition: The polymer shall be a vinyl acrylic polymer approved for use by Asphalt Systems Inc... Consult Asphalt System's Technical Representative for specific details.

Rate of spread is normally determined by the texture, porosity, and age of the asphalt pavement to be sealed. Application rate can vary from 0.08 to 0.15 gallons per square yard (0.36 to 0.68 Liters to Square Meter). For 2:1 dilution, 0.08 to 0.12 gallons per square yard (0.36 to 0.54 Liters to square meter) is recommended. For 1: 1 dilution, 0.10 to 0.15 gallons per square yard (0.46 to 0.68 Liter to square meter) is recommended. Exceeding recommended

application rates is not recommended without consulting Asphalt System's Technical Representative.

Cure Time: Expected cure times with proper applications should generally range from 2-4 hours depending upon local climatic conditions (humidity, surface temperature, daytime/ nighttime application, spread rates and dilution, etc). Sheltered or shady areas may require longer cure times.

Application Precautions:

Application Precautions: GSB-88® is not to be applied to wet or damp pavement surfaces. Do not apply during rainy or damp weather, or when rain is anticipated within 8 hours after application is completed. Pavement surface temperatures should be 50°F (10°C) and rising before application of GSB-88® is applied. At least three hours of daylight should remain after completion of the application. The Emulsion temperature for application should be 130°F, but not exceed 160°F. GSB-88® should not be applied on extremely windy days.

Caution should be taken when applying GSB-88® over existing coal tar treatments, as curing time and traffic readiness could be compromised, consult with Asphalt System's Technical Representative

Preparation of Pavement Surfaces: Repair and patch all major pavement defects. All cracks, other than hairline cracks, should be filled with suitable bituminous crack filler. Scrape all oil spots to remove excess oil and dirt. Just before applying GSB-88® clean the asphalt surface of all loose dust, dirt, and other debris.

Sanding: If needed, sanding should be done at the same time GSB-88® is applied to maintain adequate surface friction. A hard, highly fractured sand should be used. Because there are regional differences in sand characteristics, a knowledgeable local pavement maintenance engineer should be consulted to insure that the appropriate amount and type of sand is chosen to regain any lost skid resistance. Sanding is best done by mounting a sand slinger on the applicator and applying approximately 0.10 to 0.5 pounds of sand per square yard to achieve needed friction results. Consult Asphalt System's Technical Representative for specific details.

Striping: Striping should be done in two phases, the first phase is to be a 30% stripe after the GSB-88® has had sufficient time to cure. Final Striping should be done 30 days after the final application.

Maintenance: Under normal traffic conditions a single application of GSB-88® when properly applied, should not require reapplication for 3 to 5 years. Thereafter, additional applications of GSB-88 can be reapplied to extend the life of the pavement indefinitely.

Health and Safety: Consult the Safety Data Sheet (SDS) for GSB-88® fire and explosion data, health hazard data, first aid procedures, reactivity data, spill or leak procedures, waste disposal

and use of personal protective equipment. Additional copies of the Safety Data Sheet (SDS) can be obtained by calling ASI, 801-972-2757 or visit: www.asphaltsystemsinc.com

Warranty and Disclaimer: Refer to www.asphaltsystemsinc.com for terms and conditions.

Cost and Additional Information: For further information on availability and cost of GSB-88® contact Asphalt Systems, Inc., P.O. Box 25511, Salt Lake City, UT 84125-0511 or call at 1-801-972-2757. Website: www.asphaltsystemsinc.com

For Chemical Emergency:

Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300 CCN1842 or

+1 703-527-3887 (collect calls accepted)