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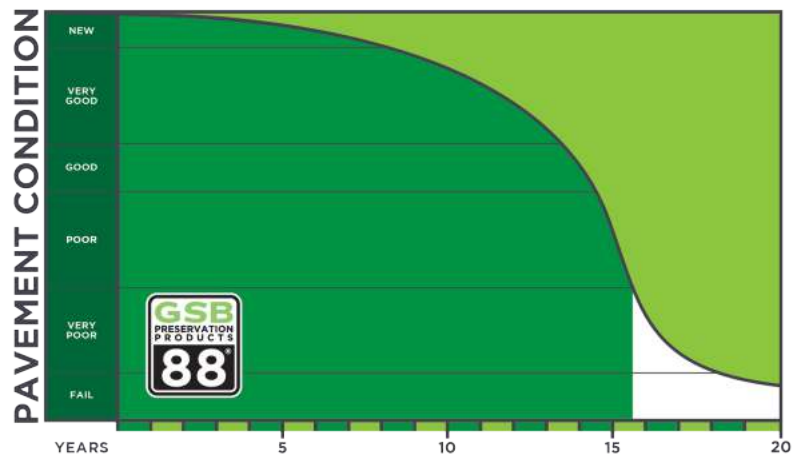
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## ASI Does Pavement Preservation Right

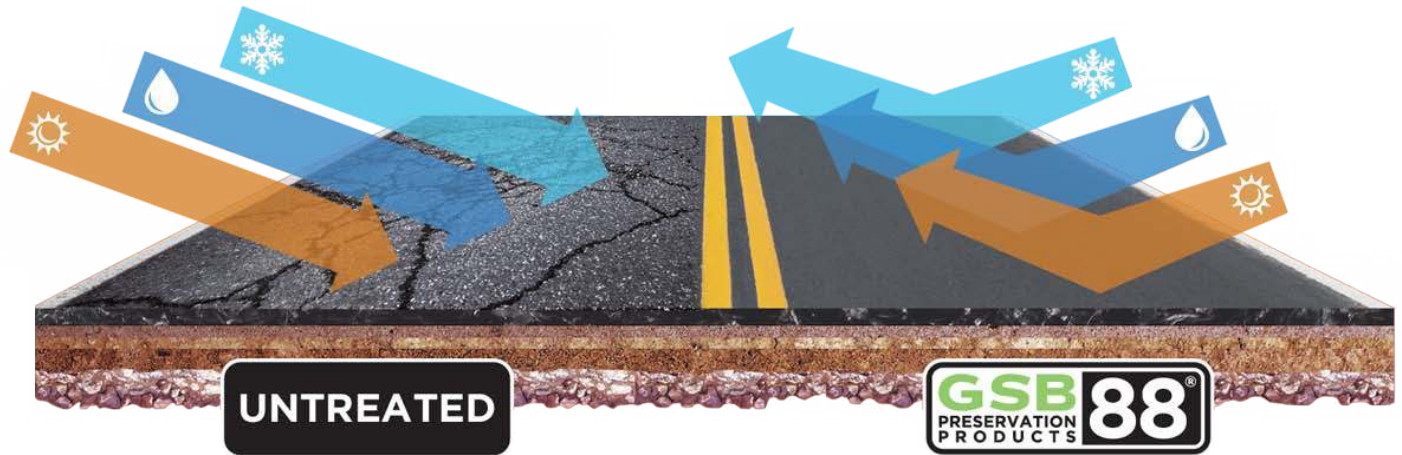
A single application of GSB-88® lasts up to five years, extending the life of your pavement, and delaying expensive resurfacing projects.

GSB-88® rejuvenates asphalt pavements by reintroducing oils and resins lost to UV rays, oxidization, temperature swings and precipitation. These environmental factors accelerate the raveling process on untreated pavement causing significant damage over time.





[Watch on YouTube](#)



## THE KEY IS GILSONITE

Gilsonite is a natural form of asphalt found in the Uintah Basin. Because gilsonite does not undergo the oil refining process, it is naturally better for the environment, extending the life of pavement with its unique chemistry.

## NO RETROFITTING REQUIRED

GSB-88® is easily applied using standard asphalt distributors and spray equipment. It cures in just a few hours, and is odorless, non-toxic, and non-carcinogenic, so you can preserve your investment and get back to business quickly.



## GREEN CIRCLE CERTIFIED

By using GSB-88® your project will show great concern for our environment. Reapplication of GSB-88® approximately every five years can double the life of



pavement, in turn reducing the environmental impacts by eliminating the need to resurface. The environmental impacts may be reduced by:

- Ecotoxicity 46% Potential Reduction
- Smog 49% Potential Reduction
- Global Warming 49% Potential Reduction
- Acidification 49% Potential Reduction
- Eutrophication 49% Potential Reduction

With regular use of GSB-88®, the life of roads, airfields, and parking lots can be doubled. By reducing the need to replace the asphalt as often, billions of dollars and thousands of tons of environmental resources are saved each year. (add link to DOD summary and full DOD report)



**Earthsure** is an environmental product declaration program, the first in the Americas, and the only one provided by an environmental non-profit. An environmental product declaration is like a nutrition label for the environment. It discloses key environmental impacts of a product based on the science of life cycle assessment. GSB-88® is an emulsified, gilsonite-enhanced, pavement sealer and rejuvenator. GSB-88® is one of the most environmentally sound pavement preservation products on the market. It has a 22 year history of performance that has been well-documented by its continued and ever-expanding use nationwide. It has been thoroughly used and tested by groups such as the FAA, the United States Navy, and the Army Corp. of Engineers. The product has been used extensively in both early stage pavement preservation, as well as reactive late stage applications for badly raveled and deteriorated pavements. It has been successfully used as a

construction seal for new pavements, to mend construction related problems, and it is the ideal product to fend off the aging process that starts immediately after construction is completed. GSB-88® is the best of both worlds. It offers both the introduction and reintroduction of light fractions, as well as the superior binding, coating, and protection that only GSB products can offer.

## GSB-88® Tech Sheet

# 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

[GSB-88® SDS](#)

[GSB-88® Runway Preservation System History & Performance Executive Summary](#)

[Life Cycle Assessment \(LCA\) EPA Report](#)

[GSB-88® Economic Benefits](#)

[GSB-88® EPD Environmental Product Declaration & Green Circle Certification](#)

[Project Calculator](#)

Product Brochure



Environmental





**Earthsure** is an environmental product declaration program, the first in the Americas, and the only one provided by an environmental non-profit. An environmental product declaration is like a nutrition label for the environment. It discloses key environmental impacts of a product based on the science of life cycle assessment.

## Asphalt Systems Inc.

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