

## TECHNICAL BULLETIN #2

# GILSABIND

### SAMI

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### Description

GILSABIND is a specially formulated product recommended for the treatment of flushed or bleeding pavement surfaces. It is manufactured from Gilsonite, a hard natural rock asphalt, which after application combines with the existing bitumen to form a new binder compound which has a much higher softening point than previous. Gilsabind may also be used to treat a stripped spray seal surface.

Initially when GILSABIND is applied to a flushed or bleeding surface, it temporarily softens the surface binder to allow it to wet and bond to freshly applied aggregate. The softening of the surface binder provides the opportunity to spread and roll additional aggregate into the surface. The result is that the pavement has much improved surface texture and a binder that is much harder and more durable.

A treatment of GILSABIND may be used as a wearing surface for at least five years prior to resealing, depending on location and traffic conditions. However resealing may be carried out on the surface anytime after a few months of the GILSABIND treatment.

### Application

The following is our recommended procedure to follow to ensure the successful application of GILSABIND:

- 1 Weather - it is critical that GILSABIND work only be attempted under optimum weather conditions. Pavement temperature ideally should be 25°C and rising.
- 2 Prior to spraying, the pavement should be swept clean.
- 3 Due to the time to complete the work, it is recommended that only part or half the pavement be attempted at any one time. Adequate traffic control procedures need to be in place to control the movement of traffic during the entire operation.
- 4 It should be noted that GILSABIND is flammable and all personnel should be made aware of this fact. Smoking or any naked flame must be prohibited within the vicinity of the work.
- 5 Prior to the work commencing, the size of the aggregate to be incorporated needs to be established. Crushed angular aggregate is preferable. The size can be 5mm, 7mm or 10mm nominal and is dependent on the quantity of excess binder at the surface. 7mm aggregate has been found suitable for a large range of conditions and traffic. If in doubt, a small trial should be carried out.

The aggregate should also be clean, dry and free of dust. If it has been pre-coated, it should have been pre-coated at least 2 weeks prior the work being carried out, otherwise the aggregate should be clean, dry and not pre-coated.

- 6 Spraying of GILSABIND should be through a calibrated bitumen sprayer capable of spraying the 0.45-0.5 litres/m<sup>2</sup> application rate, and the use of S2 Copley jets is recommended. The sprayer must be thoroughly cleaned out to ensure no contamination prior to loading of the GILSABIND. Any contamination will be detrimental to the end performance. It is suggested that a sample of GILSABIND be taken from the sprayer prior to spraying for future testing.
- 7 After spraying has been completed, the GILSABIND should be allowed to penetrate into the free binder in the surface. Where possible, allow the treated surface to stand undisturbed for at least 20 minutes prior to spreading of the aggregate. The surface can be periodically checked using a sharp object to establish the amount of softening of the surface.

- 8 Once you are satisfied that the GILSABIND has had sufficient residence time and has penetrated into the surface, spreading of the aggregate can commence and continue until all the treated area has been covered.
- 9 Aggregate should be slightly overspread to ensure no visible sign of treated surface prior to commencement of rolling.
- 10 Rolling should be carried out with pneumatic tyred multi-wheeled rollers. Rolling of the aggregate should continue under controlled traffic until the binder has regained sufficient strength to hold the aggregate.
- 11 When applied to a polymer or crumb rubber modified binder, the set-up time will take longer and the modified binder will retain most of its soft modified characteristics.
- 12 Safety and warning signs should be erected to warn of loose stones overnight and the surface should be lightly swept following morning to remove any loose aggregate.

In summary the main points of a successful GILSABIND treatment are:

- 1 Adequate free surface binder to treat.
- 2 Optimum weather conditions, pavement temperature in excess of 25°C and rising.
- 3 Selection of aggregate - including size, shape and condition.
- 4 Controlled spray rate through a calibrated bitumen sprayer at 0.45 – 0.5 litres per m<sup>2</sup>.
- 5 Adequate penetration time prior to aggregate spreading.
- 6 Sufficient rolling, with controlled traffic.
- 7 Light sweep the following morning.

### **Safe Handling**

GILSABIND is highly flammable and must NEVER be heated. Care must also be taken to ensure the tank of the sprayer has been allowed to cool down prior to filling with GILSABIND. Refer to Material Safety Data Sheet prior to use.

*NOTE: Whilst every care is taken in the preparation of this data sheet, no responsibility is accepted for the interpretation of information contained herein, nor is any warranty expressed or implied for the suitability of the material for a particular application.*