

TECHNICAL BULLETIN #16

SAMlseal SM

SAMI Bitumen Technologies

2, 3-5 Gibbon Road
Winston Hills, NSW 2153

PO Box 164,
Winston Hills, NSW 2153

Telephone: +61 2 9624 0101

Facsimile: +61 2 9624 0191

Description

SAMlseal SM is a polymer modified bitumen used in spray sealing applications. This binder is a multi-component composite, manufactured using C170 bitumen and other bitumen modifiers. It is specifically designed for application in areas which experience severe frosts, ice or snow in winter months, or when the binder is required to be applied during wintery conditions.

Features

- Immediate aggregate adhesion
- Late or early season application
- Low temperature cohesion
- Resistance to fretting
- Resistance to "fattening up".

Applications

SAMlseal SM is a polymer modified binder designed for use where climatic conditions include frost, ice or snow. It is also highly recommended for use in the "off-season" when it is considered too late or too early in the season, when climatic conditions are marginal due to cool weather, to apply other hot sprayed polymer modified binders. The product has excellent low temperature cohesion and the addition of up to 6% kerosene cutback can be used when spraying. SAMlseal SM is a binder that has unusually tough and elastic consistency with the ability to adhere immediately to the aggregate. The binder is ideally suited for situations where loose aggregate is not acceptable. After rolling the surface can be swept immediately.

If a polymer modified binder without cutter is required for application in the "off-season", then one of the SAMlflex 'E' High Residue polymer modified emulsions should be used.

During the "normal-season" when polymer modified binders are required, then SAMI's PolySeal HSS is recommended.

Physical Properties

To demonstrate the performance of SAMlseal SM, properties such as elastic recovery, low temperature cohesion, fretting resistance and resistance to "blackening-up" are necessary to evaluate this product. Overseas experience shows that SAMlseal SM exhibits these properties and continues to hold aggregate in place and provides outstanding cohesive strength after 15 years of use.

Typical Binder Values

Fraass Point	- 29 °C
Viscosity @ 165°C	0.15 Pa.s
Torsional Recovery, 25°C	15%
Elastic Recovery, 25°C	25%
Viscosity after 24 hrs @ 180°C	No Change
Fretting Test @ - 10°C	4% loss

Manufacture and Delivery

SAMlseal SM is manufactured and supplied from our plant at Camellia. Transportation of the product to sites a long distance from the manufacturing plant is simple and easy as SAMlseal SM has a very good storage life at temperature without degradation.

Use and Handling

Design

Seal design practices for crumb rubber binder used in your region should be used when using SAMlseal SM.

Storage/Heating

Never heat SAMIseal SM above 195°C. SAMIseal SM may be stored for up to 24 hours at 165°C without any change to viscosity or properties. After this time the temperature should be lowered to 130°C with intermittent circulation until required for use. For periods longer than 5 days please contact SAMI Bitumen Technologies. When re-heating SAMIseal SM heat at a maximum of 10°C per hour.

Preparation

Pre-coated aggregate is recommended as well as the use of anti-stripping agent. Wet aggregate should not be used. SAMIseal SM should not be sprayed over a primer seal for at least 48 hours after the application of the primer, and it is completely dry. SAMIseal SM should also not be sprayed over a primerbinder for at least 14 days after its application.

Application

SAMIseal SM can be sprayed using conventional equipment. Road surface temperature should generally be at least 15°C and rising. Up to 6% cutter may be added to SAMIseal SM and should be sprayed at temperatures between 165°C and 185°C.

SAMIseal SM is an extremely sticky binder which adheres immediately to aggregate. After rolling, the surface can be swept to remove loose aggregate. A hard sweep using a power broom fitted with metallic bristles immediately after rolling may dislodge some aggregate. Caution is advised.

Spraying when rain is imminent is not recommended as best practice should apply. However, a spray seal binder with the adhesion and tenacity to perform under unexpected adverse conditions provides the contractor with significant additional comfort.

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