

## TECHNICAL BULLETIN #23

## SAMI Bitumen Technologies

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# SAMISEAL S45R

## Crumbed Rubber Modified Sprayed Seal Binder

### Description

SAMISEAL S45R (Austroads PMB Grade S45R and Qld TMR Grade S1.8R) is a crumbed rubber modified binder used extensively in sprayed sealing. This versatile binder is recommended, in the Austroads Guide AP-T235-13, for use in High Stress Seals (HSS), Extreme Stress Seals (XSS) and Strain Alleviating Membrane (SAM) applications.

SAMISEAL S45R is manufactured using a proprietary process that ensures a homogeneous, storage stable product. The storage stability of SAMISEAL S45R has been proven in practice, by transporting the product over periods of three days at elevated temperature to remote locations and applied without any phase separation of the crumbed rubber or loss of quality of the product.

The product is an excellent alternative to field produced crumbed rubber blends and provides:

- a consistent quality assured product
- at significant cost savings
- provides ease of application
- without the requirement to transport special manufacturing equipment at additional cost

### Features

SAMISEAL S45R is used in situations where high traffic related stresses are applied to the sprayed seal. These include situations such as tight radius curves, steep gradients and heavy load intensities.

SAMISEAL S45R is recommended for both;

- *Severely stressed sites* with typical gradients >5%, curves of a radius <50metres, intersections, T junctions, and heavy traffic entrances involving severe degrees of braking, acceleration or turning.
- *Moderately stressed sites* with typical gradients <5%, curves of a radius >50metres, intersections, T junctions, and heavy traffic entrances involving moderate degrees of braking, acceleration or turning.

Generally it is necessary to use a two coat seal to treat severely stressed sites. In such circumstances it is recommended SAMISEAL S45R is to be used in the first and the second binder applications.

Special features of SAMISEAL S45R are:

- Excellent aggregate retention
- High softening point
- Crack retardation
- Compatibility with a broad range of bitumens
- Excellent cost-performance ratio

### Availability

SAMISEAL S45R is manufactured and supplied from our production facilities at Sydney, Brisbane, Perth and Melbourne.

### Storage and Handling

- The product requires constant circulation to maintain homogeneity
- Never heat SAMISEAL S45R above 200°C.
- SAMISEAL S45R may be stored for up to 2 days at maximum temperature of 180°C.
- For periods exceeding 2 days the temperature must be reduced to 120-140°C and can be kept at this temperature for up to 10 days without deterioration of binder properties.
- When re-heating SAMISEAL S45R heat and circulate at a maximum of 10°C per hour.

### **Recommended Field Practices**

- When carrying out the seal design, the appropriate PMB Factor (PF) must be included to ensure the correct application rate is determined. The PMB factor is available from either Austroads Technical Report AP-T68/06 titled "Update of Austroads Sprayed Seal Design Guide Method" (Table 4.1), or relevant state road authority guide. Allowances for local conditions should also be considered when selecting the PF.
- The pavement surface temperature of a minimum of 20°C is recommended for spraying SAMIseal S45R. However the Austroads guide or the relevant SRA guide may override this recommendation.
- The use of cutter would be determined by local conditions and SRA guidelines.

Where the binder is to be applied directly to a Portland Cement Concrete surface, an application of SAMIprime should be applied prior. The concrete surface must be thoroughly cleaned before the application of the prime.

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