



**TECHNICAL BULLETIN #13**

**SAMI Bitumen Technologies**

**CARBONYTE SEALCOAT**

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**High Performance Sealant for Asphalt & Sprayseal Surfaces**

**Description**

**Carbonyte Sealcoat** is a high performance pavement micro-surfacing sealant. It is manufactured using technology derived from a decade of polymer science research to produce NASA's Space Shuttle exterior protective coatings. The advanced process used to produce Carbonyte Sealcoat converts bitumen into a superior-performing thermoplastic which penetrates and weatherseals the pavement's surface.

Carbonyte Sealcoat is a microsurfacing sealant, which incorporates fine aggregates to provide texture to an asphalt surface. Carbonyte Sealcoat is also a very effective waterproofer and rejuvenator for sprayseal surfaces.

**Uses**

Carbonyte Sealcoat has many applications including urban streets with low – medium traffic volumes, airport runways / taxiways, or car parks where the existing surfacing requires rejuvenation and/or waterproofing as well as micro texture providing skid resistance.

Carbonyte Sealcoat is recommended for the following:

- to protect or repair the surface from ageing and oxidising
- protect against weathering
- protect against tyre scuffing and power steering abuse
- to address a surface-ravelling problem
- to repair a very "open" asphalt surface, or fine cracking

**Benefits**

There are many benefits to be gained by treating a pavement surface with Carbonyte Sealcoat:

- seals pavement surfaces against sun and moisture damage
- rejuvenates oxidised asphalt or sprayed seal surfaces
- provides the pavement with a permanent "black" surface
- extends pavement life and lowers maintenance costs
- resistant to power steering abuse
- no tyre scuffing in high temperatures
- highly water-resistant once cured
- UV solar resistant
- provides surface texture offering skid resistance
- fast curing, and under certain conditions can be applied at nighttime
- able to have Pavement Markings applied immediately after curing
- has tenacious adhesion and will not delaminate
- non-hazardous

**Typical Properties**

Property	Test Method	Results
Long Term Weathering (>150 months)	Controlled field tests	No cracking, crazing or shrinkage fissures. Retains black hue.
Accelerated 10,000 hour QUV	ASTM E 96	Passes and retains black hue
Aged Colour Retention (Beckman 5240 spectrophotometer)	ASTM E903	Exhibits less than 3% spectra reflectance at 60 months
Wet Track Abrasion	ISSA a-105(TB 100) ASTM 3910	< 5 grams loss, 6 day soak
Ductility / Flexibility	ISSA TB 146	Passes at 0°C
Skid Resistance	Caltrans SRL Standard	Passes 60 Kph
Aggregate to Asphalt adhesion	ISSA TB 114 Boiling test	Passes at >95% adhesion
Solids Content	ASTM D244	58% minimum

### **Pavement Preparation**

Prior to application the surface must be thoroughly cleaned. Repair all potholes and seal cracks. SAMI's Pavefix is recommended to fill potholes, and SAMIfilla HM is recommended for crack sealing.

### **Application**

SAMI Bitumen's Carbonyte Sealcoat is spray applied at ambient temperature using purpose-built equipment operated by SAMI Road Services. The application rate is dependent on the pavement condition, porosity, surface texture and age of the asphalt/sprayseal. A general guide for a single coat application is between 1.0-1.50 litres per m<sup>2</sup>. A double coat application may be required where the surface is rougher than normal and in this situation both coats will be applied at around 0.80-1.0 litres per m<sup>2</sup>. Surfaces to be treated should be dry, otherwise moisture trapped under the Carbonyte Sealcoat will blister the new coating. Concrete surfaces are particularly susceptible and may require a SAMIprime prior to treatment.

### **Curing**

Carbonyte Sealcoat is fast drying without the need for direct sunlight and dries from the bottom up, which means that when the surface appears dry, it is dry. Generally a single coat is usually sufficient to seal most surfaces against all moisture intrusion. Curing takes place in two distinct phases. The first is a rapid cure, which is normally trafficable in less than 60 minutes, the second is a substantial hardening of the surface which under sunny conditions takes about 4 hours. Once cured, Carbonyte Sealcoat is not affected by water or rain, and can have pavement markings applied. If a second coat is required, the first coat must have fully cured before the second application.

For further information on the application and pricing of Carbonyte Sealcoat please contact SAMI Road Services Pty Ltd phone (02) 9638 0255 or email [camellia@srsroads.com.au](mailto:camellia@srsroads.com.au)

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