



SAMI SOLUTIONS

Gilsabind 'S' Queensland Transport



Gilsabind 'S' Solution No. 1

Stripped pavement gets second life thanks to Gilsabind "S"



A 2 km long section of the Landsborough Highway in Central West Queensland had stripped badly and was even bare in places.

SAMI was recently called on by Queensland Transport to assist in rehabilitating a defective sprayed seal on a 2 km long section of the Landsborough Highway, near Winton in Central West Queensland, which had stripped badly.

Both lanes of the highway, which is part of the National Highway Network, were very patchy, making the pavement unsightly and lowering the skid resistance of the surface.

Queensland Transport realised the problem would have to be solved before higher temperatures during summer could cause the 4.5% polymer modified bitumen to soften and start lifting off. The pavement itself, built over black soil, was otherwise sound, the 14 mm

single coat spray seal having been placed over a 7 mm primer seal.



After being sprayed with Gilsabind "S", the existing polymer modified bitumen softened sufficiently to accept a new application of aggregate.

In considering the options to rehabilitate the surface, Queensland Transport was reluctant to respray the entire area with new bitumen, as this may result in an excess build-up of bitumen which could cause the pavement to bleed, especially during the summer.

As an alternative, Queensland Transport's Senior Advisor Pavement Surfacing, Steve Hogan, suggested trying SAMI's Gilsabind "S".

Gilsabind "S" is a specially formulated treatment for flushed and bleeding pavements. It is manufactured from Gilsonite, a hard natural rock asphalt with a softening point of 140°C. When Gilsabind "S" is applied to a flushed or bleeding bitumen surface, it softens the surface and the Gilsonite combines with the bitumen to form a new bitumen compound which has a much higher softening point than bitumen.

This softening also provides the opportunity to spread and roll new aggregate into the surface which, once cured, creates a new wearing



Queensland Transport's Alister Cullen said the Gilsabind "S" treatment had worked very well.



surface that is much harder and more durable than standard bitumen, with excellent skid resistance.

After inspecting the surface at the Landsborough Highway, SAMI recommended spraying Gilsabind "S" at a rate of 0.45 litres/m².

Gilsabind "S" penetrated the existing bitumen and softened it to a depth of about 4 mm within about 10 minutes. 10 mm pre-coated aggregate was then spread and rolled into the new bitumen compound by Queensland Transport.

After completing a 300 m long by 3 m wide trial section to prove the combination would work, the project was tackled in 600 m long sections, completing one lane at a time so that the other lane could remain open to traffic.

Spraying began at about 10.00 am once the pavement temperature had reached 25°C and the entire project, comprising around 18,000m², was almost completed by 3.00 pm that afternoon, with only a small area remaining to be completed

the following morning.

The only pre-treatment required prior to SAMI spraying the Gilsabind "S" was to sweep loose dust from the pavement and, after the works were completed in the afternoon, the pavement was swept again to remove any loose stones and it was immediately opened to traffic.

Commenting on the performance of Gilsabind "S", Queensland Transport's Manager Civil Works Central Western District, Alister Cullen, said: "As none of us had used the product on such a large scale, we were a little bit apprehensive at first, but I have to say we were all pleasantly surprised at how well the Gilsabind "S" worked.

"Right from day one it seemed to provide excellent aggregate adhesion as there were no loose stones thrown up when I drove over the newly completed surface," he said.

"When I checked the pavement one month or so after construction, it seemed to be holding up well which is a very promising sign. Usually if you

are going to have any problems with a spray seal, they are apparent within the first couple of weeks.

"We will certainly look at using Gilsabind "S" again as it is a very cost-effective and simple method to use to rectify the type of problem we had on the Landsborough Highway."

"The patchy nature of the surface certainly made this a very difficult surface to correct," said SAMI's Spray Sealing Manager, Ian Swanston.

"The area surrounding the road was also very dusty and a strong 20 knot cross-wind made the conditions less than ideal, but fortunately this didn't affect the quality of the end result and it demonstrates how effective Gilsabind "S" can be for applications such as this," he said.

Gilsabind "S" has been available in Australia since the late 1970s and it has been widely used in NSW by the Roads and Traffic Authority which has included a section on the product in its *Spray Sealing Guide*.

This Case Study has been produced with the kind assistance of Queensland Transport.



For further information on any of the products featured in this Case Study or any of SAMI's other specialist road maintenance products and services, please contact:

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