



SAMI SOLUTIONS

Reclamite 'A'

Fairfield & Wollongong Councils



Pavement Rejuvenation Solution No. 1

Reviewing the long-term performance of Reclamite "A"

Since its introduction to Australia in the late 1970s, Reclamite "A" has played an increasingly important role in many councils' pavement management systems (PMS).

Reclamite "A" is a specially formulated bitumen rejuvenator which helps to maximise the service life of asphalt pavements. *(Another formulation, Reclamite "S", is available for rejuvenating spray sealed surfaces.)*

Reclamite "A" and "S" work by replenishing the chemical constituents of bitumen which are lost through a combination of oxidation and ultra-violet degradation. In a sense, they are like an anti-ageing cream for bitumen.

Fairfield and Wollongong City Council are two of the many councils which have utilised Reclamite "A" as a preventive maintenance treatment in recent years.

To measure the long-term performance of Reclamite "A" and determine its effectiveness in maintaining the integrity of the asphalt surface and, most importantly, in minimising the ingress of moisture — a major cause of asphalt pavement failure — SAMI carried out permeability tests on a number of roads several years after they were treated with Reclamite "A" *(untreated control sections were also tested for comparative purposes).*

The following information, diagrams and photographs refer to permeability tests carried out on roads in Fairfield and Wollongong, in July 1993.

Fairfield Council

"Fairfield Council has regularly used Reclamite since the initial trials at Gidgee and Brigalow Streets about eight years ago," said the Council's Pavements Engineer, Steve Beauchamp.

"Considering treatment by Reclamite costs about five to eight times less than other forms of surface rehabilitation, it is a very cost-effective way of maintaining the condition and extending the service life of asphalt and spray sealed pavements.

"While the trial sections at Gidgee and Brigalow Streets are starting to show some signs of deterioration, they are nowhere near as bad as the control sections which have deteriorated significantly. I'm also sure that had we retreated the trial surfaces at the recommended period of about seven years, they would be in even better condition."

Fairfield Council considers the use of Reclamite on surfaces exhibiting "the first signs of binder oxidation,



The Reclamite "A" treated surface (left) on Gidgee Street has lasted well, while the control section is showing severe ravelling and cracking.

some ravelling and/or very fine micro-cracking of the surface," said Steve.

"In my experience, treating pavements at around 10 to 12 years of age with Reclamite can help to prevent those pavements from breaking down structurally during the next five to seven years, after which, as long as the pavement is still in good condition, the surface can be re-treated.

"Of course," he added, "Reclamite is only going to help protect a structurally sound pavement. If a pavement is already starting to break down structurally, it will require a more substantial form of treatment."



The difference between the quality of the surfaces on the Brigalow St control section (left) from the Reclamite "A" treated section is very noticeable.

Control (Untreated) (28 mm/sec)	1 coat Reclamite 'A' (14 mm/sec)	Control (Untreated) (44 mm/sec)	1 coat Reclamite 'A' (11 mm/sec)	Control (Untreated) (32 mm/sec)	2 coats Reclamite 'A' (11mm/sec)
1 coat Reclamite 'A' (11 mm/sec)	Control (Untreated) (38 mm/sec)	1 coat Reclamite 'A' (10 mm/sec)	Control (Untreated) (31 mm/sec)	1 coat Reclamite 'A' (5 mm/sec)	Control (Untreated) (36 mm/sec)

A: September 1987/July 1993

B: September 1987/July 1993

C: December 1989/July 1993

The above diagrams show the results from the permeability tests on Brigalow (A) and Gidgee (B) Streets in Cabramatta and Rickard Road (C) in Unanderra. The dates are for application and permeability testing.

Wollongong City Council

Commenting on the results from the permeability test programme, Wollongong City Council's Geotechnical Engineer, Peter Tobin, said he believed that Reclamite "A" had performed as promised.

"Reclamite "A" is an important element in our total pavement management system," said Peter.

"We mainly use it on residential streets with low traffic volumes where oxidation of the bitumen binder is starting to cause raveling and scouring.

"For surfaces which have not deteriorated too far,

Reclamite "A" can be a cost-effective way of maximising their service life. It also helps to minimise the inconvenience to residents.

"Although, in the early days, we did have some difficulty in convincing people that what we were doing in spraying Reclamite "A" was going to make their roads last longer," he said.

"Because you can't see any dramatic physical change, people are sceptical of whether or not the product is actually doing anything, but we overcame that problem by carrying out a public education programme about the treatment and the

results from the permeability tests are proof of the long-term benefits of Reclamite "A".

Wollongong City Council has around 1000 lane kilometres in its road network.

"We aim to maintain around 8% of our network each year and, of the work we do, about 10% is surface rejuvenation using Reclamite "A"," said Peter.

"As the costs of other rehabilitation methods continue to increase, the cost-effectiveness of Reclamite "A" will make it a very attractive option for preventive maintenance."

This Case Study was prepared with the kind assistance of Fairfield and Wollongong City Council.



The difference in the permeability of the non-treated (left) and treated sections of pavement on Rickard Road can be clearly seen in this photo taken after light rain.



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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