Sticking to Unsealed Roads

EVA Glue Trials

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Introduction

- Dust – difficult to cost effectively manage
- Diminishing budgets forces innovative ideas
- EVA Glue Application – unsealed road trials
Trials - Groundbond

• New product on the market

• Essentially glue applied to the unsealed road surface

• March 2013 – trialled on Golflinks Road 2400m²

• Total cost for preparation and application: $11.60/m² lasted approximately 12months

• Not cost effective for the performance
In house Trials

- Idea had merit

- Whakatane DC, Opus and Transfield decided to carry out further trials themselves – Jan/Feb 2015

- Sourced an EVA dust suppressant glue

- Developed a method for applying the product to the road surface
In house Trials

- Different plant combinations
- Different application rates
## In house Trials

<table>
<thead>
<tr>
<th>Road</th>
<th>Preparation/Application Process</th>
<th>Approx Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golflinks</td>
<td>Maintenance grade using the walk’n’roll. No post compaction. Average application rate of 2L/m² applied using a water cart.</td>
<td>$2.40/m²</td>
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<tr>
<td>1200m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallett</td>
<td>Grade, steel roller, glue application 2L/m², steel roller again.</td>
<td>$2.30/m²</td>
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<tr>
<td>2400m²</td>
<td></td>
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</tr>
<tr>
<td>Hallett</td>
<td>Grade, Walk’n’roll, glue application 3L/m², Walk’n’roll again.</td>
<td>$1.50/m²</td>
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<tr>
<td>2400m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallett</td>
<td>Grade, no pre-compaction. Glue Application rate 2L/m², Walk’n’roll post compaction.</td>
<td>$1.30/m²</td>
</tr>
<tr>
<td>2400m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallett</td>
<td>Grade, no pre-compaction. Glue Application rate 2L/m², Steel roller post compaction.</td>
<td>$2.20/m²</td>
</tr>
<tr>
<td>2400m²</td>
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</tbody>
</table>
Monitoring

• Sites were driven before the application and regularly afterwards

• To minimise variables:
  – Use same vehicle
  – ~60kph constant speed
  – Inspect minimum 2 days following rain
  – Negligible wind

• Condition of pavement and any maintenance carried out
Golflinks Road Trial

Untreated

6 weeks after treatment
Golflinks Road Trial

3 months after treatment

5 months after treatment
Hallett Road Trial

Untreated

1 week after treatment
Hallett Road Trial

9 weeks after treatment

4 months after treatment
4 months after treatment – 3L/m²

4 months after treatment – 2L/m²
Pavement Condition

Golf links Rd - Untreated

Golflinks Rd – 6 weeks after treatment
Pavement Condition

Hallett Rd – 4 months after treatment

Golflinks Rd – 4 months after treatment
To date, both sites have only required minor pothole repairs.

Golflinks Road – outside of the trial site has been graded 3 times and two blowouts bridged with metal.

Hallett Road – full unsealed length treated so comparing to historical maintenance costs.
Conclusions

Results to date – EVA application provides cost effective dust reduction

Added advantage of reducing Maintenance Costs

Most effective application method:
- Grade
- Apply 2-3L/m²
- Compact
Further Investigation

Next steps in the trial:

- Encourage other regions to take part
- Quantify the dust
- Impact on aggregate loss and breakdown
- Trial high stress areas
- Continue monitoring of Maintenance Costs to determine whether the treatment lowers the whole of life cost
- Compare cost effectiveness and
Questions