Central Otago Resurfacing

‘Black Sticky Stuff and Chips’
Summary

Central Otago Resurfacing

- Climatic Challenges
- Fierce heat
- Intense cold
- Soft binder grades
Contract Details

- P/17 Specification
- Output based specification allows for innovation
- Better suited surfaces designed and constructed
- Less risk to the client
<table>
<thead>
<tr>
<th>Item</th>
<th>P/4</th>
<th>P/17</th>
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<tbody>
<tr>
<td>Treatment Type</td>
<td>Consultant</td>
<td>Contractor / Consultant</td>
</tr>
<tr>
<td>Sealing System</td>
<td>Consultant</td>
<td>Contractor / Consultant</td>
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<tr>
<td>Seal Design</td>
<td>Consultant</td>
<td>Contractor</td>
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<tr>
<td>Seal Construction</td>
<td>Contractor</td>
<td>Contractor</td>
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<tr>
<td>Consultant QA</td>
<td>Surveillance / Supervision</td>
<td>Observation</td>
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<tr>
<td>Final Acceptance</td>
<td>Up to 7 days</td>
<td>12 Months</td>
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<tr>
<td>Risk</td>
<td>Client</td>
<td>Contractor</td>
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“Combo” Seals

Used in a rutfill situation

10mm to 12mm rut depth

Large grade of chip placed in wheelpaths

- Flushed and rutted wheelpath = Laid “dry”

- Rutted wheelpath = Laid with binder
“Combo” Seals

Smaller chip seal coat then applied full width

Advantages:

- Less cost (full width two coat seal not required)
- Wheel ruts remedied
- Texture in wheelpaths is corrected
Racked-in 2/4 with Gr 6 Wetlock

Racked in Grade 2 and 4 chip

Gr 6 wetlock applied on top
Racked-in 2/4 with Gr 6 Wetlock

Advantages:

- The means to get above flushed layers
- Reduction in “tyre roar”
- Smoother ride for cyclists
- Nearby residents given some relief from noise created by road traffic
The Next Challenge

owner NZ no longer supplying hot cut-back bitumen
The Next Challenge

Risks involved with emulsions under P/4:

Streaking

Emulsion not breaking quickly, leading to traffic delays

“Rain Wash” of the emulsion after decision made to seal

Low viscosity and hence the risk of runoff into stormwater
The Next Challenge

Owner NZ confident they can mitigate the issues

Few risks not expected to effect Central Otago network...

As surfacing work is being completed to P/17 specification
Polymer Modified Binder

Local considerations:

- Range in temperature
- Chip retention through a good level of bonding with binder
- Requirement to remain flexible in winter
- Traffic stress
Polymer Modified Binder

Advantages:

- Increase in softening point
- Increase in adhesion once bond has occurred
- Increased waterproofing
Intervention Levels

Build-up of surfacing layers leads to rutting and flushing. Intervention can be deferred by the use of PMB’s (produced with flushing and tracking) comparatively expensive.

Granular Overlays often more cost effective over the long term.
Performance Reports

Excellent achievement towards high levels of texture and kid resistance

Circle diameters on average 120mm to 170mm depending on seal type
Main complication:

Winter maintenance (snow plough)
Adapting to the climatic needs of Central Otago has achieved an excellent level of service for the SH network.

Cost savings from “getting above” flushed layers

Correction of surface faults through capital works, rather than maintenance

Innovation has lead to many benefits to the client.