DECADE OF EXPEDIENT PAVEMENTS
Expedient Pavements

An innovative civil construction process where the replacement of a fatigued, deteriorating concrete slab/panel is expedited using specialised methodology, equipment, and concrete.
Failure is NOT an Option
Operations and Construction

![Graph showing the decrease in construction time and increase in operation access from 2009 to 2021. The graph has two lines: one for operation access and one for construction time.](image-url)
Decade of Data – Flexural Strength

Results from project samples which are tested at NATA approved laboratory.
Decade of Data – Compressive Strength

Results from project samples which are tested at NATA approved laboratory
## General Comparison

<table>
<thead>
<tr>
<th></th>
<th>Flexural Strength (MPa) @ 2 hours</th>
<th>Compressive Strength (MPa) @ 2 hours</th>
<th>Drying Shrinkage (Microstrain - µm) @ 56 days</th>
<th>Permeability (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Purpose *</td>
<td>≤ 1.0</td>
<td>≤ 5.0</td>
<td>≥ 450.0</td>
<td>≥ 20.0</td>
</tr>
<tr>
<td>Portland Cement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium Chloride *</td>
<td>≤ 1.0</td>
<td>≤ 5.0</td>
<td>≥ 450.0</td>
<td>≥ 15.0</td>
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<tr>
<td>GP Additive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSA/Portland Blends *</td>
<td>≤ 3.0</td>
<td>10.0</td>
<td>≤ 300.0</td>
<td>Unknown</td>
</tr>
<tr>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCSA/Single Cement</td>
<td>≥ 3.0</td>
<td>≥ 23.0</td>
<td>≤ 180.0</td>
<td>≤ 5.0</td>
</tr>
</tbody>
</table>

* Information from publicly available Technical Data
Lessons Learnt

Good
✓ It's a long haul
✓ Not just about cement
✓ Approvals / Specification
✓ Pre Works / Contingency
✓ Methodology
✓ Cooperation with access

Bad (Mistakes we've made)
✗ Ambient conditions
✗ Plant and equipment
✗ People
✗ Don’t cut corners
SUMMARY

- **Experience**: Utilisation of BCSA for 12+ Years.
- **Durability**: No strength degradation.
- **Collaboration**: Consultation with industry creation of Expedient Pavements.
- **Operations**: 4-hour window for slab replacements.
- **Commitment**: Leader in the field and continual advancement.
Access to operational areas will continue to decrease with the need for larger areas of concrete will be delivered.

Commercial and financial model for the delivery of expedient pavements will change.

By 2030 we predict 60% of all concrete works will be completed through an expedient pavement solution.