



PROJECT REPORT SHEET:

BluCem HSI00A

EASTLINK TUNNELS, MELBOURNE



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1.6km Concrete Lined Twin Tunnels as part of the Eastlink Motorway Extension from the outskirts of the Melbourne CBD to Frankston.

PROJECT COMPLETION: NOVEMBER 2007
CLIENT/END USER: THIESS JOHN HOLLAND
JOINT VENTURE

APPLICATION

WHERE WE USED BLUCEM HSI00A

Precast concrete invert segment support system installed to the entire length of the tunnels under the road pavement as part of the total circumferential tunnel structural lining system.

WHY WE USED BLUCEM HSI00A

An alternative invert precast segment system was designed for the tunnel's concrete structural lining, in an effort to maximise construction efficiencies and time for performing the works. The challenge was to support the precast concrete segments when in place and effectively acting as part of the entire tunnel lining system under the final expected traffic and ground support loadings. A high performing grout was therefore required due to installation and final design performance considerations.

FEATURES

- Precast invert segments with handling and placement systems
- Heavy duty plastic cellular shim supports for grout penetration
- Annulus stop ends using compressible bull hoses for post construction grouting later
- System interface compatibility with external sheet membrane tunnel liner
- Mixing and pumping system for restricted underground site placement

BENEFITS

- High early strength for construction traffic and production cycle turnaround times
- High flowability to ensure full void penetration at the lining external annulus
- Significant workability to facilitate pumping and placement times required
- Grout additive offering cost benefits due to local available cement supply

SUMMARY

Bluey provided full design and site support, which included a pre-emptive aboveground prototype trial through to grout placement underground in tunnel resulting in the successful installation of precast concrete invert segments and associated grouting works by the Client.

