

Project Brief

## Bridge 57 NAL

### Abutment & Pier Strengthening



Auckland, NZ  
2006



This rail road over-bridge was suffering from alkali silica reaction (ASR) and needed repair.

The cracking was so extensive that 1 x layer Tyfo® WEB bi-directional 0°/90° weave glass fabric was applied to the entire area of the piers and abutments as a protective layer and to seal the cracks for injection. This layer cures clear enough to see the previously marked locations for injection packers. Extensive structural epoxy injection was undertaken with low viscosity MC Dur 1200 VK via an MC-I 500 pump.

A collar consisting of the the top 600 mm of the bridge piers and abutments were wrapped horizontally with a 2 x layers of Tyfo® SEH 51A uni-directional glass fabric with Tyfo® SEH Composite anchors right through he piers and also deep into the abutments to provide confinement to this badly effected area of the structure.

Fibrwrap helps prevent further Alkaline-Silica Reaction (ASR) damage because Fibrwrap has much lower water permeability than the concrete structure. This is also useful if the reinforcing steel has low concrete cover.

The entire area is coated with Tyfo® A Finish coat to provide UV resistance. MC Emcephob graffiti protection coatings can also be specified as the finish coat.