

## Epoxy Resin Crack Injection

Wimbledon Train Maintenance Depot

### Client

Stagecoach South Western  
Trains Ltd

### Contractor

Geoffrey Osborne Ltd

### Engineer

Frankham Consultancy  
Group Ltd

### Works Commenced

July 2017

Wimbledon Train Maintenance Depot services the train fleet for South West Trains. Maintenance Road 7 is approximately 250m long and comprises two concrete up stand walls 1130mm high by 460mm wide, which support the running rails. The walls were built within a pit which enables maintenance staff to access the underneath of the train from directly beneath and from the outside face.

The facility was built in the early 20th Century with mass concrete walls. It was repaired in the 1970s with reinforcement added local to the wall-tops to resist cracking induced from the rail shoes. Freyssinet was engaged in 2017 to remedy further cracking that afflicted 90% of the length of both walls. Horizontal cracks were visible on the inner and outer faces and a central vertical crack was found in some locations by taking cores. Stray currents had been detected by the Engineer which were possibly causing corrosion of the reinforcement.

Freyssinet's package included:

- removing a band of render (saw cutting to form a neat edge) to gain access to the surface of the structural crack,
- drilling and fixing injection packers at approximately 300mm centres to intersect the crack,
- sealing the crack surface with TamRez 310 putty,
- injecting cracks with TamRez 220 epoxy resin,
- re-applying render,
- applying concrete repairs using Renderoc HB repair mortar,
- repainting with three-coat Pumacoat system.

The works were done in three phases to suit continuing train maintenance obligations and took nine weeks. A total of 1150 linear metres of cracks up to 5mm wide were injected.

