

CINTEC RAIL NEWS

Spring
2008



Cintec Rail in Greece

Cintec Rail, part of the Cintec International Group, have developed a proven method of assessment and repair using their system "Archtec", which is also suitable for assessing seismic loadings. It is currently being used on the upgrading of eleven Railway Bridges on the Diakopto to Kalavryta line south of Athens. This rack and pinion railway runs from Diakopto at sea level to Kalavryta, a ski resort passing through twenty two kilometres of mountains of outstanding natural beauty and is a national monument.

The work is to strengthen the arches, piers and abutments before new bearings and track repairs are undertaken.



*Railway Bridges on the Diakopto
to Kalavryta line*



Cintec Rail in India



Cintec India and the Archtec partnership have been running a “health” monitoring programme with the Indian Railways. This programme is to monitor and report on the results of a 1,000 tonne train carrying stone over a number of railway bridges. The monitoring is programmed to take place for one year from March 2007 with quarterly reports on the bridges movement being recorded. In addition, Cintec has been heavily engaged in pricing and evaluating a number of bridge strengthening projects.



The company are currently engaged in assessing and upgrading the capacity and integrity of thousands of bridges in “The Golden Quadrilateral” for RVNL of the Indian Rail Network.

The project team needed a degree of armed protection throughout the work to avoid being kidnapped for ransom!!

Meanwhile – nearer to home . . . in Wolverhampton



Old Heath Road Railway Bridge - Protection structure fixings

Cintec anchors were used to support steel protection structure with a test load of 550kN per anchor. The bridge had suffered vehicle impact damage many times as the height restriction was ignored by commercial vehicle drivers in the heart of this West Midlands industrial area. Bridgeward division of Network Rail decided that a permanent protection system should be provided. The design used high strength steelwork bolted to the abutments with Cintec 42mm diameter stud anchors in a 1600mm long taper drilled hole to achieve the design load capacity.

And in South Wales . . .

This 6m high railway retaining wall at Pontypridd required stabilisation after masonry from the wall, and earth from the slope above it, had slipped onto the adjacent land.

Structural engineer Bradley Associates proposed a combination of a crib wall and rock anchors.



Main contractor Richards Construction hired Cintec installation contractor Roger Bullivant, to install 250 Cintec anchors to improve cohesion, and forty rock anchors to provide support for the wall and upper slope.

Severely damaged sections of the wall were drilled using a handheld diamond coring machine with grids of holes at 600mm centres for the Cintec anchors. The anchors were Cintec 12mm diameter stainless steel in a 40mm hole and 900mm long, and were grouted with Cintec's Presstec grout.

Cintec Rail

11 Gold Tops
Newport
NP20 4PH

Tel: 01633 246614

Fax: 01633 246110

Email: hqcintec@cintec.co.uk

www.cintec.co.uk /

www.cintec.com

Fully staffed offices in:
UK, Canada, USA,
Australia and India

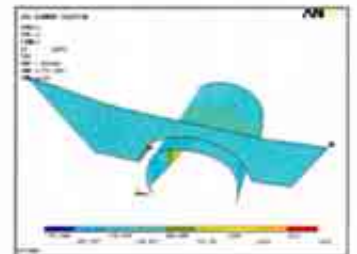
And back in Athens . . .



This bridge on the Athens Metro line required substantial repair work using the Cintec anchor system.

The alternative proposal of a reinforced concrete saddle was rejected in favour of the quicker and more economical Cintec proposal.

Substantial cracking of the spandrel walls caused by lack of drainage, expansion joints and the close proximity of tree roots.



After surveying, the bridge was modelled using finite elemental analysis and the Cintec Multibar anchor design arrived at as the most effective solution.

