Case History

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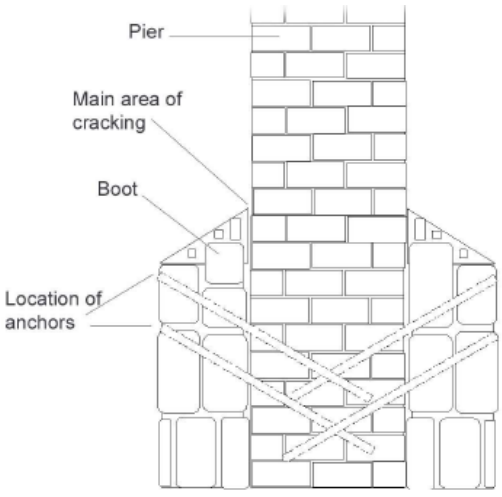
REINFORCEMENT SYSTEMS

Leaderfoot Viaduct, Scottish Borders, U.K.

Located in the Scottish Border country, the Leaderfoot Viaduct has four of its piers with foundations in the river Tweed, the brick masonry is protected by stone block 'boots' designed to deflect water and flood debris. However in 1994, after more than a century of service, extensive cracking had developed between the stonework and the brick masonry both above and below the water line. Although not exceeding 5ft in depth, divers were required to assess the extent of damage underwater. A remedial solution for re-securing the two elements was devised by the installation of sixteen; 2/4 inch Cintec rebar anchors, 6ft in length and four per pier.

The uncontaminated river is popular with salmon fishermen and the necessity to avoid any environmental pollution was uppermost in the minds of all those involved. As alternative un-contained methods of anchoring and grouting were out of the question, Cintec was the clear choice.

Under the supervision of the local river authority, holes were drilled at a downward angle through the boots into the piers. These instantly filled with river water, however due to the unique nature of the Cintec anchor - filling a mesh fabric sleeve from the rear to the front, all water was fully displaced upon grout injection. The visible cracks were sealed manually by inserting lengths of sock into the fissures and expanding them. The subsequent watertight seal allowed conventional grouting to be injected into any remaining internal voids without danger of release into the water system.



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