Metalock Engineering UK

Press Information

METALOCK PROCESS ENABLES SUCCESSFUL RESTORATION OF LONDON'S ALBERT MEMORIAL

The 135-year old Albert Memorial standing opposite The Albert Hall in London has been recently restored to its former glory by English Heritage. The memorial is constructed from elaborate cast iron sections, up to 75mm thick, clad in lead and decorated with bronze and mosaics. There is also wrought iron, early mild steel, copper and gold. The lead in places is 20mm thick.

In the original design there was no provision for the lead to expand, and being constrained it buckled in hot weather. Eventually, the buckled areas cracked and split and let water into the cast iron core leading to corrosion over the years. Corrosion jacked up the lead even more which increased the cracking. Parts of the cast iron core were severely corroded and in some areas there were cracks. These might have been the result of settlement over the years.

Due to these problems, English Heritage was given the task of restoring the edifice in the late eighties and giving it a 60-year life. After many delays, the project was started in 1994 and completed in 1998. To provide protection whilst the work was being carried out over 300 tonnes of steel scaffold tube and fittings were used for what became Europe's largest ever free-standing scaffold building covered in steel and plastic sheeting. The memorial was systematically dismantled and the degree of necessary repair to individual elements and sub-assemblies assessed. The aim was to retain as much of the original material as possible and this meant that badly damaged cast iron sections would be cut out, a replacement section made and fixed back on to the original to restore the overall element.

A system for cold repairing cracks and broken castings is the Metalock process and Coventry firm Metalock Engineering was called in by the contractors DGT Steel & Cladding early in the restoration programme to assess whether the process could be successfully used to repair the damaged castings and provide the 60-year life required.

The answer was positive and by the time the programme was completed Metalock had carried out nearly 100 metres of cold repairs and metal stitching of new and old castings. Additionally, there was a considerable amount of fusion welding work which the company also undertakes.

The Metalock process is accepted as the method of repairing cracked and broken castings across a wide range of industries in a multitude of applications. The process is carried out either in situ or in one of Metalock's workshops. It is an entirely heat-free process and the combination of keys and studs produces a pressure-tight repair which is completed by a final peening and dressing. Components were transferred to Metalock's workshop to facilitate efficient repairs.

Following casting repairs, all components were cleaned and red lead painted before the lead claddings were put back with improved slip joints enabling expansion and contraction without causing splits.

Nearly 100 metres of "Metalocking" was used to repair broken and badly cracked core castings comprising the elements London's Albert Memorial. Pictures shows stitching new to old on one of the upper gables in Metalock's workshop.

Metalock Engineering UK
Unit H 5
Pilgrims Walk
Prologis Park
Coventry
CV6 4QG
England
Phone: +44 (0) 24 7636 0084
Fax: +44 (0) 24 7636 0190
E-mail: sales@metalock.co.uk
www.metalock.co.uk

REG IN ENGLAND NO: 469627
VAT. No. GB 646 9227 09