

Post Tensioning – Spencer Dock Bridge, Dublin



Artists impression



Concrete pour



Stressing



Grouting

Innovative bridge design creates a landmark structure in Dublin's dock regeneration area.

Main Contractor	Laing O'Rourke
Client	RPA
Consulting Engineer	Arup
Post tensioning specialist	Balvac
Site programme	Sept to Nov 2008
Sub-contract value	£ 120,000

In March 2008 Balvac won the sub-contract to supply and install the post tensioning system to Spencer Dock Bridge in Dublin. The 26No internal tendons each consisted of 19No 15.7mm super strands within a 100mm diameter corrugated plastic post tension duct.

Arup's innovative design is based on the geometry of the manta ray fish, with asymmetrical pectoral fins extending out from the bridge and sweeping down towards water level. This unique layout resulted in complex rebar and formwork details, creating a real challenge for the site teams of both Laing O'Rourke and Balvac.

The specification required a full scale grout trial. This was carried out in advance of work on site, using the same tendon and grout materials, plant and personnel as proposed for the permanent works. Sections were diamond saw cut through the trial beam to demonstrate complete filling of the tendon duct.

Fully detailed records of the stressing and grouting work in accordance with Concrete Society Technical Report 47 Ed 2 and the latest CARES Scheme requirements were kept and passed on to the contractor.

Balvac, the UK and Ireland licensee of the MK4 Post Tensioning System, can offer a full range of internal and external, bonded and unbonded, post tensioning systems for a wide range of structures such as bridges, building slabs, tanks and silos. In addition to new build work Balvac can also undertake tendon monitoring and strengthening works on existing structures.

Balvac

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