

Bridge hoist with a surprise – Liebherr LG 1750 mobile lattice boom crane operated by Wiesbauer has plenty in reserve

- Liebherr lattice boom crane dismantles pedestrian bridge as part of the Stuttgart 21 rail project
- Heavy load logistics specialist Wiesbauer provided its most powerful mobile crane
- The LG 1750 has plenty in reserve for a load of 142 tonnes with a 52-metre radius

Ehingen / Donau (Germany) September 2016 - As part of the Stuttgart 21 infrastructure project, a pedestrian bridge had to be removed to be replaced by a new railway bridge in Baden-Württemberg's state capital. Crane contractor Wiesbauer assembled its Liebherr LG 1750 lattice boom crane on the banks of the River Neckar to remove the wooden bridge. Despite the bridge weight being significantly higher than expected, the crane successfully completed the work.

The most powerful mobile crane in the Wiesbauer crane fleet had been assembled to dismantle the wooden bridge which was installed in 1977. The Liebherr LG 1750 provided sufficient hoisting capacity for this job with its 84-metre main boom and total ballast of 530 tonnes. The larger section of the Neckar bridge, measuring 72 metres in length, was removed.

After taking material samples and examining the design documents, the project planners expected the bridge to have a total weight of 110 tonnes. However, it quickly became clear when the roofed wooden bridge was hoisted that it was significantly heavier than had been calculated. It was not until the display in the crane cabin of the LG 1750 showed a gross load case of 142 tonnes that the feet of the bridge came away from the abutments and river piers. The rest was then easy. The wooden construction was slowly swung over the River Neckar and placed on the bank for final demolition. The weight difference was the result of a large number of gusset plates and iron reinforcements which had been installed.

However, this unexpected increase in the load case did not take the experts from Wiesbauer completely by surprise. Plenty of crane ballast had been transported to the

site and the Liebherr 750-tonne lattice boom crane had plenty of lifting capacity in reserve. Ultimately a total of 530 tonnes of counterweights was placed on the turntable and in the derrick boom tray in the 18-metre radius.

The pedestrian bridge over the River Neckar was built for the Federal Garden Show in 1977. When it was opened it was one of the longest roofed wooden bridges in the world. The eastern section of the structure is to be removed over the next few months.

Liebherr LG 1750	(Assembly status SLDB)
Main boom SL	84 m
Derrick boom	31.5 m
Turntable ballast	170 t
Suspended ballast	360 t (at a radius of 18 m)
Support base	12 x 12 m
Load case (gross)	142 t at max. 52 m radius
Load case (net)	132 t

Captions:

liebherr-lg-1750-wiesbauer-bridge-lift-panorama.jpg:

Released: the 40-year old bridge on the hook of the Liebherr LG1750.

liebherr-lg-1750-wiesbauer-bridge-lift-counterweight.jpg:

Massive ballast: counterweights weighing a total of 530 tonnes.

liebherr-lg-1750-wiesbauer-bridge-lift-slings.jpg:

Getting to grips: the massive attachment equipment is inserted through the opened roof.

liebherr-lg-1750-wiesbauer-bridge-lift-end-position.jpg:

Almost there: the 72-metre wooden bridge is deposited on the bank of the River Neckar.

Contact

Wolfgang Beringer

Telephone: +49 7391 502-3663

Email: wolfgang.beringer@liebherr.com

Published by

Liebherr-Werk Ehingen GmbH

Ehingen / Donau, Germany

www.liebherr.com