

Upgrade with PowerBoom – Liebherr LR 11000 crawler crane completes crane job for next higher crane class

- First use of the LR 11000 with PowerBoom
- 220 tonnes handled with a hook height of 147 m
- LR 11000 erected one of the world's largest star of rotor blades

Ehingen / Donau (Germany) December 2014 – Since the last two years the Liebherr plant in Ehingen offers the PowerBoom for its large crawler cranes. The parallel boom which drastically increases load capacities was recently used for the first time on the LR 11000. The latest Liebherr crawler crane in the 1000 tonne class positioned a gigantic machine room on the tower of a wind turbine in Northern Germany. It was a gross load of 220 tonnes.

A 6.2 MW pilot system has been erected by Senvion (previously REpower) in the new test field for offshore wind turbines 20 kilometres south of Cuxhaven. Crane contractor Nolte was engaged for the work and decided to use a Liebherr LR 11000 crawler crane owned by Felbermayr heavy load contractors based in Wels in Austria. Nolte had dispatched two Liebherr mobile cranes to the site for the set-up work and to provide general assistance.

The LR 11000 had been shipped to Bremerhaven from the Romanian port of Konstanz in summer after completing its first assignment in a refinery near Bucharest and it was then transported from there to the site. After a set-up period of just seven days the crawler crane had been fitted with the parallel boom and ready to hoist the load with a hook height of 147 metres. Parts from the luffing jib are used for the set-up version with the double lattice mast main boom. The standard main boom sections are then used as the luffing jib. This clever exchange provided the crane with up to fifty percent more load capacity in the configuration with the luffing jib. The increases in load capacity using the PowerBoom are the result both of enhanced lateral rigidity and from the increase in torsional moment.

The heaviest component of the system was the massive machine room. "Normally an LR 11350 or a CC 8800 would have been required for this hoist", explained Klaus Ruhland, Project Planner and the man for heavy hoisting work at Felbermayr. With a

radius of 30 metres the LR 11000 together with the load cross beam and hook block hoisted a total load of 220 tonnes to a height of 130 metres. Just for comparison, without the PowerBoom, it would only have been able to hoist around 160 tonnes with the same hook height.

But it is not just the bare figures which are mightily impressive. It was also definitely something to see. The system was fitted to one of the largest wind turbines in the world. The massive star of rotor blades had been completely pre-assembled on the ground. With a diameter of 152 m, the massive propeller was almost the same height as the high church spire in the world on the Minster in Ulm.

Crane: Liebherr LR 11000 (setup status: PDW3B)

- Main boom	78 m
- Luffing jib	66 m
- Derrick boom	42 m
- Central ballast	50 t
- Slewing platform ballast	220 t
- Suspended ballast	320 t
- Load case	220 t at a max. radius of 30 m

Captions

liebherr-lr11000-powerboom-cuxhaven1.jpg

A track was built to erect and lower the crane

liebherr-lr11000-powerboom-cuxhaven2.jpg

The massive machine room for the wind turbine measures 19 m in length and 9 m in height.

liebherr-lr11000-powerboom-cuxhaven3.jpg

Put a big hook on it: Securing the wind turbine hub.

liebherr-lr11000-powerboom-cuxhaven4.jpg

Thanks to PowerBoom: 220 tonnes are hoisted on to the 130 m tower.

liebherr-lr11000-powerboom-cuxhaven5.jpg

The LR 11000 installed one of the world's largest star of rotor blades with a diameter of 152 m.

liebherr-lr11000-powerboom-cuxhaven6.jpg

Clear line of vision upwards and high concentration: Jan Kürner at the control levers of his LR 11000.

liebherr-lr11000-powerboom-cuxhaven7.jpg

The star of rotor blades with the hook block weighs a total of 173 tonnes.

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