

Connecting Scotland

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Wacker Neuson equipment is used for the construction of new Queensferry Crossing.

The Queensferry Crossing in the east of Scotland is a construction project of great importance for the Scottish traffic planning. For the work in high altitudes also equipment from Wacker Neuson is used.

Construction of the Queensferry Crossing in Scotland is a real tour de force: The construction work will take place 207 meters (638 ft) above the water level, equivalent to approximately 48 London buses stacked on top of each other. 150,000 tonnes of concrete will be poured and there will be 23,000 miles of cabling used – laid out, this would be nearly stretch around the entire planet Earth. When complete, the Queensferry Crossing will be the longest three-tower, cable-stayed bridge in the world and also by far the largest to feature cables which cross mid-span.

Responsible for the construction is FCBC (Forth Crossing Bridge Constructors) – a consortium of different construction companies from Germany, Spain, the US and the UK. For the construction of the bridge also four DF16 rebar tiers and 377,000 ties from Wacker Neuson are used.

“Our steelworkers love the DF16 due to its speed on the job”, explains John Rodgers, FCBC Works Manager. “Thanks to their upright position, the work is now much more back friendly.” The DF16s are used to tie “shear links” on rebar on the deck section of the bridge. The steel required for the final deck weights a total of 35,000 tonnes. That’s the equivalent weight of nearly 200 Boeing 747s.

The mechanical device uses a proven twin wire mechanism which ties up to 1,000 uniform and firmly tied knots per hour. At the Queensferry Crossing the steelworkers make 33,000 ties per section. The advantages of the DF16 are obvious: Thanks to a mechanical device concept, the operator is independent of a battery and the necessary charging time. In addition, no scrap wire arise which must be removed at the end of the work. Besides the classical application areas the DF16 is also suitable for the activation of construction components.

To compact the fresh concrete John and his team use 40 high frequency internal vibrators of the IFRU series. “We use two different variants of the vibrator head size: 57 mm and 38 mm”, explains John. The vibrators of the IFRU series can be simply connected to the 1-phase power supply and are ready for operation. Quick, simple, flexible.

The models of the IRFU series are characterized among other things by the integrated frequency converter. Therefore no additional frequency converters are necessary to operate this internal vibrator - simply connect to a plug receptacle and get to work right away. Also in conjunction with a generator and with fluctuating input voltages IRFU is safe and reliable. Thanks to the complete potted electronic components there is no danger of an electric shock.

“We are very pleased with the DF16 and the IRFUs from Wacker Neuson and would always choose it again”, says John. “Also the service and complementary services have convinced us.”