

one Banut 800 piling rigs. Each one drove about 1,000 piles per week.

The cutting of the piles was then further subcontracted to MDF Construction, which used a MotoCut Q350 pile cutter mounted on a 9-tonne JCB excavator to cut 8,000 of the piles.

Piles are often manually cut, which is difficult and hazardous work that involves the use of power saws.

Finnish-based MotoCut's mechanised solution was said to be safer because it puts the worker inside an excavator cab, thereby removing them from the risk of falling sections

Guidance given on core drilling

The German Engineering Federation, VDMA, has published an information brochure entitled Safe Fastening of Core Drilling Equipment, in both English and German, intended to help companies use core drilling equipment to greatest effect.

In order to carry out precise and effective core drilling work, VDMA said the core drilling equipment must be safely fastened to the ground.

But this task can be made difficult by the complex relationship that exists between the drilling machine and the site conditions.

Due to the fact that the ground is often composed of heterogeneous materials with varying characteristics, dowel manufacturers cannot provide universal data regarding dowel extraction force.

As a result, it is necessary to carry out studies and consult experts before deciding what the most suitable fastening system is for the drilling machine. This process may involve referring back to past experience, co-operating with dowel manufacturers and collating data about all the influencing variables.

"For this reason, we can't provide users with a universal recipe," said Helmut Schgeiner from the VDMA. "But what we can do is to offer them for the first time compact information about all essential prerequisites for the safe fastening of a core drilling machine on the construction site, which goes beyond the information contained in the operating instructions."

Taking advantage of the information provided in the brochure was said to require an in-depth knowledge of the field of applied machine and fastening technologies. Manufacturers of core drilling equipment have therefore advised users to have all decisions regarding the method of fastening the equipment on the construction site taken only by adequately trained and instructed personnel.

Space limitations were a challenge for Bauer when it was carrying out the foundation works for the renovation of Battersea Power Station, London

of piles and the danger of developing HAVS (hand-arm vibration syndrome), caused by handling power saws.

MotoCut said its solution also boasted greater productivity, since one person using the attachment could cut about 120 piles a day, compared to the 30 piles a day that could be cut manually by a single worker.

UNDERGROUND GARAGE

Another project where slab foundations had to be used was the expansion of a two-storey underground garage at the Universitätsklinikum (University Clinic) in Mannheim, Germany.

Slab technology by Cobiax was used to optimise both the construction and use of the facility. Regarding the construction, the depth of the foundations was reduced and the parking level plane was successfully aligned with the existing underground garage.

Through the use of two Cobiax E270 and



E360 void formers over a 4,400m² slab area, parking bays were created with a width of 2.5m and a clear headroom height of 2.25m.

Also, the slender ceiling structures allowed the foundations to be reduced in depth, despite a slab span width of 14.5m.

Cobiax's technology is based on the creation of closed voids inside a reinforced concrete surface or slab. These enclosed plastic void formers, made from recycled material, replace concrete where it is not structurally essential. This reduces both the amount of concrete used and the deadweight of the foundations.

Liebherr has introduced the LRB 16, which is a new compact piling and drilling rig that was said to be suitable for the diverse requirements of deep foundation work. It is also available as an LRB 18, with a longer leader.

The name of the LRB 16 is derived from the sledge's travel distance, approximately 16m.

With an operating weight of 48 tonnes, the rig has a low ground pressure, and the undercarriage has been designed to enhance the machine's stability, which can be further increased with optional rear supports.



Pile Dynamics' new shaft quantitative inspection device (SQUID) can provide measured load-penetration curves at the bottom of a shaft



MotoCut's Q350 pile cutter was said to offer a safer and more productive alternative to manual pile cutting at