PRESS INFORMATION

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Darda hydraulic splitting cylinder removes pile heads

A WORTHWHILE DEMOLITION SOLUTION FOR A DEMANDING JOB.

Germany. **During construction of the bridge at Bermecke Ruhrtal as part of the expansion of interstate 46, 84 piles were set for deep foundation production. A hydraulic splitting cylinder from DARDA was used for removing the extra concrete, cutting off the heads of the piles. The pile heads with a diameter of 1.5 meters and an approximately equal height were removed with high efficiency and precision using two DARDA C9 L splitting cylinders.**

The hydraulic rock and concrete splitting cylinders from the German manufacturer, Darda GmbH are powerful hand-held equipment for breaking up reinforced concrete and natural stone in a controlled manner, with low vibration, low noise and good accuracy. The complete equipment consists of one or more splitting cylinders, a power unit and a hydraulic hose. The hand-held demolition tools develop the enormous splitting force of 195 to 413 tons, depending on the model and version. The C9 splitting cylinder has the best size/performance ratio worldwide and is designed for medium to heavy use with reinforced concrete.

Working principle with many advantages

First, a drill hole with a defined diameter and a predetermined depth is drilled into the concrete structure to be broken up. The wedge set of the splitting cylinder is inserted in the drill hole. A wedge is then pushed hydraulically between the two so-called counter wedges. These are forced against the drill hole wall until the concrete breaks under the pressure. The operator can control the direction of the crack in advance, which then appears in a matter of seconds.

The advantages of this method, especially when breaking-up pile heads, are obvious: light vibration only develops when drilling. The operation of the DARDA splitting cylinder is completely vibration-free. The material is broken up quickly and, most importantly, in a controlled manner. Quite in contrast to breaking up the pile heads using a demolition hammer, this not only protects the concrete structure, but also the operator. In addition, the work with splitting cylinders is also pleasant because no debris or sharp splinters are produced, and their operation is nearly noise-free. Moreover, the burden on workers

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resulting from the weight of the equipment is low. A C9 L splitting cylinder weighs just 23 kilograms, and after the wedge set is inserted, the device no longer needs to be supported by the operator.

Groundbreaking efficiency

During construction of the bridge neat Bermecke, the piles from type C3037 concrete were first scored five cm deep at the desired height in order to create an even more precisely defined breaking point. Using a rotary hammer, the workers then drilled two holes opposite each other into the piles at the cutting line. A C9 splitting cylinder was inserted into each drill hole and switched on. Within seconds, each concrete pile was broken neatly in two at the desired height, in spite of their heavy reinforcement with 25 mm rebar. The pile heads were lifted down by a crane, using steel lifting eyes set for this purpose. This was possible because before installing any reinforcement cage, each of the 24 horizontal bars that were incorporated into the pile heads had been encased in a plastic sheath that slipped off the bars during lifting.

A total of 135 cubic meters of concrete material were removed in this manner. The executing company, Kukor Pfahlabbruch in Völklingen/Germany, attested an appreciable time- and thus significant cost savings that could be attributed to the effective break-up method of the DARDA splitting cylinder.

The Hydraulic Expert

DARDA GmbH, Blumberg, has been THE EXPERT for specialized hydraulic demolition equipment: The company is known for its hydraulic rock and concrete splitting cylinders that enjoy worldwide popularity. In addition, it develops and produces hand held shears, as well as concrete and steel shears in various performance classes for carriers. Groundbreaking in the demolition sector is the latest DARDA development - the TC120 carrier operated tank cutter. The newly developed TC120 tank cutter is designed for safe cold cutting of steel containers and panels.

In addition, DARDA markets electro- hydraulic demolition robots from BROKK in Germany and Austria. The entire range of DARDA shears is also optimized for these high-performance carriers.

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Captions

A combination of 2 DARDA splitting cylinders quickly break up a reinforced pile head in a controlled and user-friendly manner.

A crane is used to lift off the hydraulically split pile heads and remove them.

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