

# PILING CANADA

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## NEW TECHNOLOGY COULD BE A VIRTUAL BONANZA

*VR and AR are still new technologies in the construction sector,  
but could be potential game-changers in the not-too-distant future*



### **Inside:**

#### **Big Rig a Big Deal**

Fraste's MITO 100 TB  
is making a big  
impression in  
the Canadian  
construction industry



Piling Equipment Ltd.'s Cobra T12000



variants being released including the first Cobra drop hammer, the D500. Currently, Cobra drop hammers (D500 and D1000) are manufactured in Germany, while the majority of Cobra models, including the T12000, are constructed in the U.K.

The much-anticipated Cobra T12000 is ideal for working on restricted access and low headroom sites. With a basic weight of 2,850 kg, a minimum height of 1,730 mm, a maximum height of 2,350 mm, a minimum width of 780 mm and a maximum width of 1,200 mm, the T12000 has a reduced footprint and fully adjustable rubber tracks, enabling it to fit easily through gateways and doorways, and it works extremely well in confined spaces. Piling Equipment Ltd.'s managing director Mark Symes said, "We are very excited to be producing a range of machines which are so iconic."

### Soilmec SR-125 HIT In Frankfurt, excellence in segmental casing

The SR-125 HIT drilling rig is currently the flagship of the Soilmec range. Engineered to be multi-functional and technologically-adaptable, the SR-125 HIT is built with a robust design to face the most challenging jobsite conditions.

The Four Frankfurt project was certainly a good jobsite to test the rig's performance. Piles were drilled in a difficult and overburden soil that stretched over pre-existing foundations. Silty clay, sand and several rock layers were the main geological components. The segmental casing technology, in which piles are driven directly by the rotary head, was used.

The foundation piles are at a depth ranging between 36 and 40 metres, with diameters of 1,500 mm and 2,000 mm. The foundation piles, in addition to their static function to support the structure, are used for ecological heating and cooling of the building. The armature cages were installed complete with geothermal probes which act as closed circuit heat exchangers.

The SR-125 HIT is a multi-purpose drilling rig designed to deliver maximum return on investment and is based on the concepts of efficiency, power, performance and flexibility. The new mast and new rotary ensure the best weight-to-performance ratio. The operator's cab was designed to offer maximum comfort and ease of use to increase productivity.

The drilling rig complies with the most recent safety standards: platforms with vertical guards, mirrors and video cameras so the operator can view the area around the rig 360-degrees, 10 lux lighting for night operation, as well as a new 470 kW engine meeting Tier 4 Final requirements. The Soilmec team came up with special technical solutions to give this model a competitive edge with regard to noise impact.

The SR-125 HIT has been designed with a continuous improvement approach to reduce noise through the use of radiators equipped with fan speed control, sound-absorbing and



Soilmec's SR-125 HIT



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## INDUSTRY NEWS

heat-resistant materials for applications in the engine area, increased attention paid to air flow and other parts subject to vibration, as well as the use of coffer dams made of plastic material to muffle the noise better. The combination of all these solutions and measures has led to an excellent result in terms of noise containment, with a guaranteed sound power level

of 109 dB and a sound pressure level in the cabin of 78 dB. This feature is crucial when working in a metropolitan centre like Frankfurt's central business district.

### On the Way from Paris to Prague

It crosses through southern Germany stretching between the French and Czech borders. As part of European

Route 50, it is an important link between Paris and Prague: the A6 motorway. The upgrading of the motorway includes rebuilding the Neckartal Bridge at Heilbronn between the junctions Untereisesheim and Neckarsulm. Hochtief Infrastructure GmbH installed the foundation piles using the new LB 45 drilling rig from Liebherr. The name of the machine comes from its nominal torque of 450 kNm. That is an increase of approximately 10 per cent in comparison to the LB 36 with 410 kNm.

### Challenge

Foundation piles were also required on "Neckar Island" about 100 metres from the riverbank. The drilling rig was transported there by pontoon. Following transportation, Hochtief built a pontoon bridge from the pontoon elements so site traffic could cross. However, the drilling rig was too heavy for the pontoon bridge. After completion of this construction phase, the bridge was rebuilt back into a pontoon so the LB 45 could return across the Neckar. The simple handling of the machine proved to be a huge advantage both when operating and when facing such logistical challenges.

### Implementation

During the six-months of piling work, Hochtief installed 106 foundation piles using the Kelly drilling method with auger and rock drilling bucket. The company handled 170 tonnes of steel reinforcements and 2,000 m<sup>3</sup> of concrete in the process. On average, the piles were 11.5 metres deep and have a diameter of 1.5 metres. Depending on the density of the rock and the drilling depth, Hochtief required about two hours per pile. Including concreting, 2.5 piles were installed per day. Hochtief was particularly impressed with the handling and the power of the LB 45. The bridge is expected to open for traffic mid-2022.

### ECA expands team to support long-term growth vision

Equipment Corporation of America (ECA) has announced new hires at several of its branches in the U.S.

ECA's president/CEO Roy Kern is especially excited to announce



The LB 45 at the rebuilding of the Neckartal Bridge



The LB 45 installed 106 foundation piles

PHOTO: Ulf Böhme