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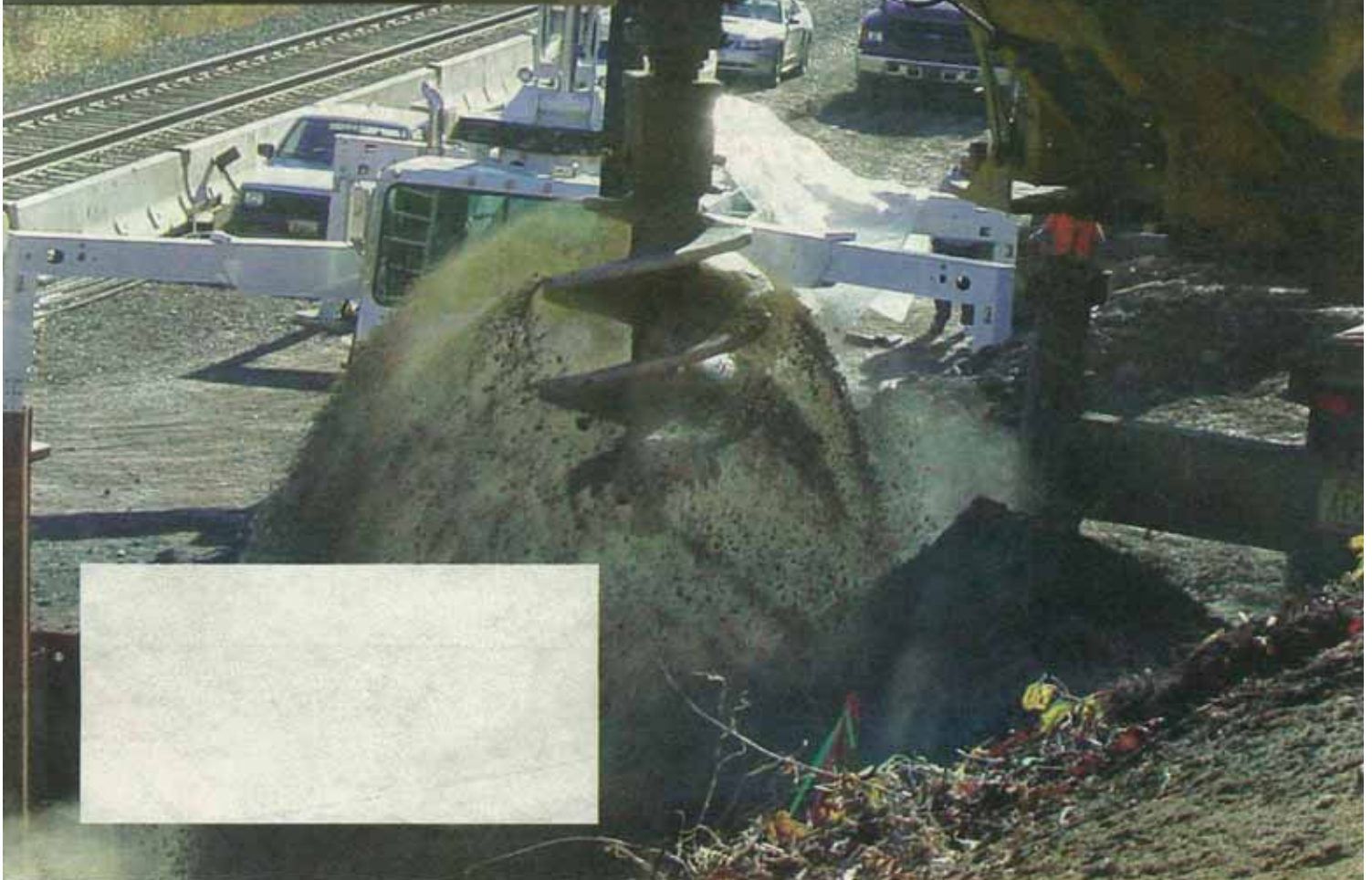
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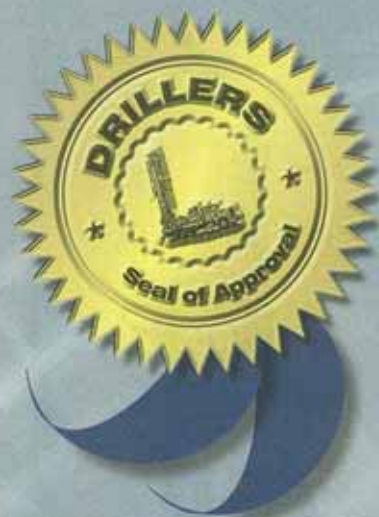
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SOILMEC's Solutions for Micro-drilling



Tie-back

SOILMEC was established in 1969. Today, it is a worldwide leader in the field of design, production and sale/marketing of equipment and rigs for drilling and foundation work.

It counts on a wide range of products, among the most complete in the world, so that it can fulfill any project or site requirement. Bridges, viaducts, electric power plants, dams, ports, motorways, metro and railways, geothermal projects and small-diameter drilling – SOILMEC can satisfy any request and need, even the most complex and articulated ones. This is the result of a widespread and deeply rooted company culture that, in keeping with the idea of true partnership, focuses on the customer and relevant requirements as the center of all its activities.

SOILMEC belongs to the TREVI Group, which ranks among the leaders worldwide in the field of special foundations. It is thanks to the synergy and interaction between engineering and field experience that the rigs produced by SOILMEC are available on the market after an accurate site-testing phase, capable of supplying successful, reliable performances, as well as innovative technologies.

Innovation as a growth engine – this concept, embedded in SOILMEC's culture, has characterized the company's activity since its very beginning – innovation of process, market, communication, but especially of product, in order to supply the client with more and more technologies that are updated and advanced for performance, quality, reliability and safety.

The real pulsing core of SOILMEC is its Research and Development Centre, which employs more than 30 people – mechanical engineers and designers who are wholly dedicated to the never-ceasing development of new, client-targeted technologies and solutions.

SOILMEC's range includes self-erecting hydraulic equipment, crane-assembled equipment; self-erecting hydraulic equipment with continuous auger, diaphragm walls, multi-function and heavy-duty cranes for foundations; micropiles, anchors, jet grouting, consolidations, soil deep-mixing; tunnel consolidation, high-pressure pumps for jetting works; site equipment and tools; and geothermal applications.

SOILMEC currently is active in more than 70 countries, with a network of subsidiaries, agents and



Micropiles

dealers who guarantee clients continuous technical and financial support, as well as an after-sale service. The desire to provide exceptional customer service drives the daily work of more than 800 employees of the company.

More Solutions for Micro-drilling

SOILMEC's proposal for micro-drilling applications includes a wide range of small-diameter drilling rigs suitable for different types of work and soil-consolidation operations.

The use of micropiles in special foundation work has undergone constant development, thanks to two essential needs – namely, the ability to consolidate soils, thereby increasing their load-bearing capacity, using less bulky equipment that offers increased operational flexibility; and the option of utilizing drilling rigs on inconsistent soils, something that cannot be achieved by means of large-diameter equipment, thereby offering concrete advantages in terms of execution times and methods. The hole diameters contemplated in the definition of a micropile are deemed to include diameters of up to 300 mm. The trend is to increase the maximum hole-diameter to as much as 500 mm, while utilizing the existing types of hydraulic drilling rigs.

A micropile essentially functions on a point-load basis, and, therefore, where the morphological situation allows, the possibility of embedding the pile in solid rock is exploited. The most commonly used technologies include down-the-hole hammer drilling (DTH), and single-rotation drilling (utilizing continuous flight augers) or smooth drills with air- or water-flushed core drills. More complex technologies are used in the interests of increased operational efficiency, namely, rotary-percussion with a top-hammer (to drill through rock), vibratory drilling (to drill through inconsistent soils), single-rotation cover drilling (using odex, tubex, simmetrix and similar methods) and dual-rotation cover drilling.

The subsequent injection of cement grout after drilling and adding reinforcement (namely, steel pipes or beams, or rebar cages) may be achieved by means of simple gravity or high pressure. The latter solution of



Anchors



Jet grouting

fers a considerable increase in the pile's load-bearing capacity for the same diameter of hole. The choice of the "right" micropile is dependent on various parameters, such as the mechanical characteristics of the soil, the diameter of the hole to be drilled, the use of the most appropriate drilling technology and, lastly, the economic benefit criteria. SOILMEC's offering to the micropile sector includes all of the different types of small-diameter drilling rigs suitable for soil consolidation operations, such as micropiles, anchors, jetting, soil investigations and tunneling.

The Trevi Group philosophy is aimed at the construction of a range of high-performance drilling rigs with a modular design that offer increased operational flexibility on site while, at the same time, guaranteeing the selection and application of various technologies, thus enabling any type of ground to be drilled profitably. For those applications involving very specific operational requirements, a number of machines utilizing specialized technologies have been developed and added to its range in its ongoing search for improved utilization and operational results.

SOILMEC for micro-drilling:

- Micropiles
- Anchors
- Jetting
- Soil investigations
- Tunneling