

# NO-DIG

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# NO-DIG

## ITALY

Supplement

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## UTILITY INSTALLATION THROUGH HARD ROCK

The increasing demand for horizontal directional drilling has shown up some technical limitations of the technology particularly in some hard soils where boring is difficult and utilises very large quantities of drilling fluid and mud additives.

Since 1995 Italian companies SE Tecnologie Avanzate and Esposito Bros. have been developing a patented system to overcome these problems in hard rock situations. They have developed a down hole tool which has the capabilities of a directional drilling rock drill bit which utilises a percussion system, all of which is guided by an electronic monitoring system which is held in a shock absorber which indicates depth, tool inclination and orientation to the drill operator.

In this system the drilling fluid is compressed air which has additives in it.

The SE Tecnologie Group and its clients completed about 50 km of installation during 1997 using this innovative technology.

A typical example of such an installation is the Via Poerio field in Naples.

The installation took place in the historical area of Naples in a street which carried heavy traffic and was lined with several shops. Drilling started from a launch pit and the bore crossed beneath ancient walls and storage cellars. The rig used for the project was an SE-FR 250 which used an air flow rate of 12,000 l of air and additives for a 120 mm diameter pilot bore. The pilot bore was reamed to 140 mm diameter so that a nest of three 50 mm diameter cables could be installed over the 67 m long crossing.

In another example, a project in the City of Celle Ligure near the Aurelia Motorway was undertaken where a crossing which included the transition of a 6 m deep river used the SE system.

The project was for the installation of fibre optic cables on a route which could not previously be completed due to soil conditions and the lack of local authority permits to open cut the site. An SE 603 drill rig was used to bore through hard rock over some 400 m to install a nest of seven 50 mm diameter cables.

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### LINER LICENSE

The company ER Tech of Naples has become the Italian licensee for the InLiner lining system produced by InLiner USA. The system is utilised for the structural renovation of water and sewer pipelines and conduits.

InLiner USA holds the patent for the lining system which produces a new structural lining within the old pipe using a thermo-setting resin impregnated, fibre liner system. The liner is installed using the inversion technique using a head of water pressure to install and maintain the liner against the old pipe during curing of the resin.



SE Tecnologie machine operates in Via Poerio, Naples.