

DIRECT DRILL®

SINGLE STEP PIPE INSTALLATION



- ▶ TRENCHLESS CABLE LAYING AND PIPELINE CONSTRUCTION
- ▶ ONLY ONE WORKSITE (RIG SITE) NECESSARY
- ▶ IN SHORE APPROACHES SAVINGS ON MARINE SPREAD
- ▶ CONTINUOUS DRILLING (IN ALL WEATHER CONDITIONS)
- ▶ LESS TO MINIMAL CONSUMPTION OF DRILLING FLUIDS

Innovation in shore approaches

Trenchless pipeline laying

In search for new and effective ways for installing pipelines and cables, Gebr. van Leeuwen Boringen B.V. (GvL) developed a new and innovative technique, called Direct Drill®.

The principle of Direct Drilling is based on common known and proven technologies as Horizontal Directional Drilling (HDD) and Microtunneling. However, Direct Drill® combines best of both worlds by providing economical and ecological advantages which Microtunneling and HDD don't provide separately.

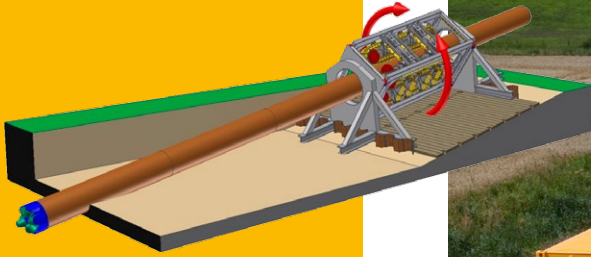
Direct Drill® is characterized by a continuous drilling process of pipes/sleeve pipes for cables from 6" up to 24". The foreseen pipeline/sleeve pipe will be installed in one single step from a rig site based onshore. In case of shore approaches there is no need for jack up vessels, cofferdams which results in significant savings. Direct Drilling is an innovation in trenchless cable laying and pipeline construction and has ecological and economical advantages compared to existing drilling techniques.



Gebr. van Leeuwen Boringen B.V.

Ampereweg 17, 3442 AB Woerden (NL) • T +31 (0)348 44 14 99 • www.gvlboringen.com





ECOLOGICAL ADVANTAGES

- ▶ Only one worksite (rig site) necessary
- ▶ No construction transportations as there is no second worksite (Access to one side of crossing is sufficient)
- ▶ Punch out without drilling fluid

ECONOMICAL ADVANTAGES

- ▶ Continuous drilling (in all weather conditions)
- ▶ Fast installation
- ▶ Less to minimal consumption of drilling fluids
- ▶ In shore approaches savings on marine spread compared to Horizontal Directional Drilling (reduction total costs)
- ▶ Optimum solution for:
 - Shore approaches for cable connections
 - Shore approaches for gas & oil pipelines
 - Land / outfalls

GvL, headquartered in Woerden, The Netherlands, is a Dutch construction firm which specializes in anchoring and trenchless installation of pipelines and cables.

Since its establishment in 1969, GvL provides subsurface construction solutions for the installation of infrastructural networks; conduits to carry electric cables and pipelines for transport of water, gas, oil and other products.

Next to the installation of pipes, conduits and cables onshore, GvL specializes in shore crossings and landfalls. Through the years GvL has built an extensive track record in the installation of pipes and cables under roads, railroads, waterways, dikes, buildings and other underground infrastructural networks in different types of soil conditions, varying from soft soil conditions to rocky areas.

GvL has gained wide experience in providing a complete range of services, from design and engineering to as-built delivery of trenchless routing projects, in support of governments, municipalities, (civil) contractors, electricity companies and oil & gas companies. In addition, GvL has experience in working under different types of contracts, varying from unit-base rate contracts to turn key contracts.

GvL is driven by a true hands-on mentality, where innovation and problem-solving thinking are the firm's core business drivers. Each trenchless routing project is known by its own characteristics for which GvL provides a specific, tailor-made solution.

GvL is a reliable and professional partner for any trenchless routing project!

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