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Summary

Terracon is an expert in the field of special foundations, both driven and drilled systems and has extensive know-how, geotechnical engineering capacity, modern equipment but most of all motivated staff and crews to its disposal. The highest priority is given to safety and quality.

Terracon operates mainly throughout the Benelux-countries (HQ in the Netherlands) and Germany (subsidiary in Berlin), but has executed piling works for large industrial projects on a hit-and-run basis in Finland, Poland, France, England, Scotland, Portugal, Hungary and even on Sri Lanka and Aruba.

All of Terracon's staff and key personnel are multilingual which enables them to work throughout Europe and with international clients.

Terracon is able to offer and execute a great number of foundation systems from 4 to 40 m in length!



Figure 1
Foundation
systems till
40 mtrs.

Terracon 'Quality is the foundation'

Driven pile systems: Vibro piles, Terra-combi-piles and Tension piles

The Vibro pile is a driven cast in situ driven pile which is mainly in the heavier sizes compatible and competitive with a precast concrete pile. If pile lengths are unknown or unsure and a client cannot wait for the production and curing time of the precast piles, Vibro piles can not only offer a solution but also maximum flexibility during the actual execution of the piling works. Furthermore there is no chance for damaging the piles during driving if heavier and more dense layers have to be penetrated. In those cases where pile point levels vary

strongly the cast in situ pile provides an excellent solution for piles from 4 to 40 m.

Terracon owns technically advanced equipment, like hydraulic Junttan and IHC S-90 type hammers which are friendly for the environment as they produce no exhaust. If necessary, a noise reduction sleeve can be mounted around the casing and the hammer. The whole pile driving process is monitored by computer for further analysis.

The Vibro-combi pile is a Vibro-pile with a prestressed and precast core suitable to take tensile

and uplift forces. The Terra-combi pile consists of a prefab prestressed concrete core which is surrounded with grout in the layers where positive skin friction is expected. In the softer upper layers, the pile shaft is covered with bentonite to reduce negative skin friction.

MV-tension-piles are applied for example for foundations for overhead transmission lines, quay walls, docks, basements, windmill foundations etc. The piles are steel tubes or H-beams which are surrounded with grout during the driving or drilling procedure. Bearing capacities are granted from 500 kN up

to 2,500 kN. Pile diameters up to Ø 2,200 mm have been installed.

**Vibration free pile systems:
Terr-Econ-piles**

The Terr-Econ-pile is a vibration free installed, full-displacement type of pile, mainly used near adjacent constructions in urban areas or in industrial sites with existing installation in operation. Terracon applies drill tables, which have a high torque. Even if high soil resistances have to be passed, the high torque combined with a vertical pressure on the casing (pulldown) cause a minimum amount of spoil. This silent and vibration free pile system can be executed with a retrievable casing or with a permanent casing

Terracon has developed the vibration free installed, prefabricated Terra-Son-pile. The prefab pre-stressed concrete core is surrounded by grout in the layers which offer positive skin friction. By using a high grade concrete for the prefab shaft and combining this with a grout cover under high pressure a system can be offered which has a high quality and is attractive for the environment. ■



Figure 2 Vibro-piles, installed with a noise reduction sleeve.

Figure 3 Bored displacement piles.



Terracon designs and executes:

- Vibro-piles
- Vibro- combi-piles
- Tension-piles (MV-piles)
- Terr-Econ-piles
- Terra-Son-piles
- Fundex- and Tubex-piles
- Precast piles
- Sheet piles and combi-walls

Terracon is also able to offer and execute:

- Diaphragm walls
- Secant pile walls
- Slurry walls
- Jet grouting
- Piling in limited headroom and space
- Micro piles and soil anchors
- Freezing of soils and soil injections
- Static pile load tests

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