KÖNIG
Pile foundations

# FUNDEX

## full displacement driven pile cast in situ

*protection oft he drill hole*

*attach oft the drill top*

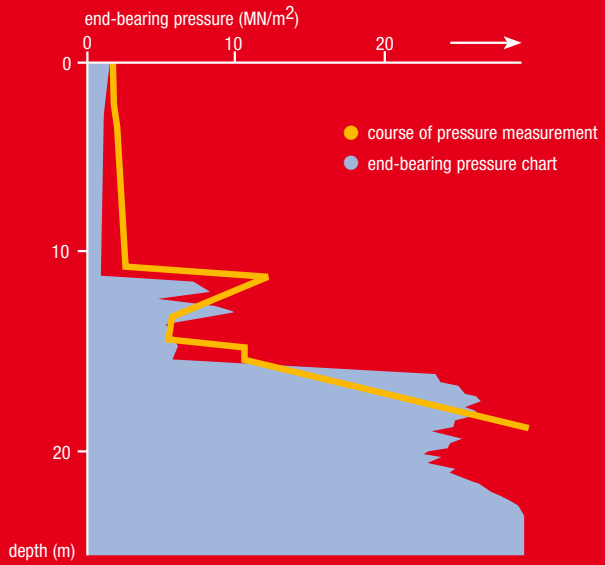
# Piling Foundations – to always be on the safe side

**Piling foundation works are required in cases where sustainable building- and foundation ground is only available on deeper soil layers. Via the piles that are driven into the ground the service load of the building to be erected is passed down in a punctual fashion to those lower and supportive stratums.**

**For piling and foundation works the VIBREX and FUNDEX Systems have now become well established. Both systems feature extremely high loading capacities. Extra excavation works are redundant and the groundwater is not affected while using one of those systems.**

| FUNDEX Pile | | Type 1 | Type 2 |
|---|---|---|---|
| Shank diameter | | 38 cm | 44 cm |
| Tip Diameter | | 45 cm | 56 cm |
| Pressure Load* | Service load | 600–1.000 kN | 1.000–1.500 kN |
| Tension Load * | Service load | 200–400 kN | 400–600 kN |
| Maximum Pile Length | | 20/27 m | 30 m |
| Inclination | | 4:1 | 4:1 |
| Minimum Reinforcement B ST 500 S (A) | | 5 Ø 14 | 6 Ø 14 |
| Drilling Unit | | F11/F12 | F12 / F 2800 & F 3500 |
| Distance to existing buildings (does not apply for works near the right angle of an L-shaped walling) | | 80/100 cm | 100/120 cm |

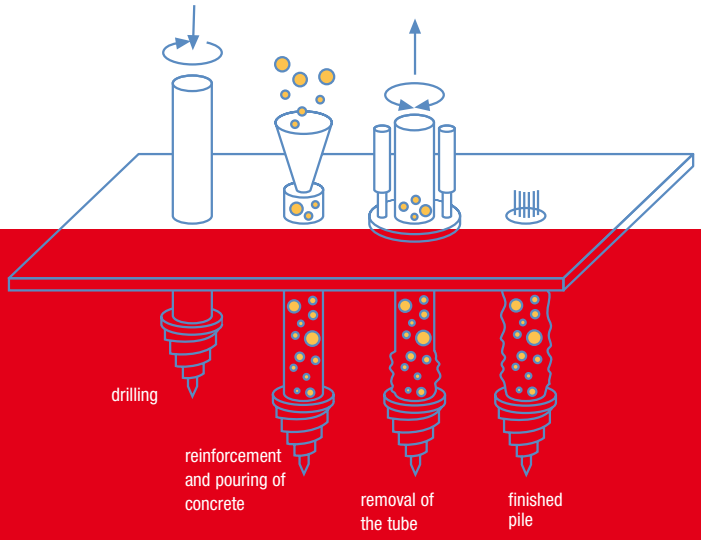
* Depends on the existing foundation ground and bond lengths

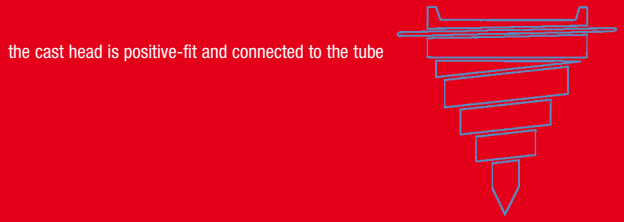



# FUNDEX – the system for vibration free foundation works

**The FUNDEX pile is a full displacement driven pile cast in situ which can be manufactured vibration free and at very low noise levels. The pile is available in two sizes with pile shaft diameters of 38.0 cm or 44.0 cm respectively. The bearing capacity depends on the individual foundation ground to be worked on and ranges up to 1.500 kN.**

**In order to manufacture the pile a rotating tube that is closed at the end with a cast-steel tip is driven and pressed into the ground by means of hydraulic pressure. The system pressure that arises in the course of that process is continuously monitored and adjusted by means of an end-bearing pressure diagram chart. Also, the system pressure serves as a verification of a technically perfect and impeccable execution of the piling works and is therefore fully documented.**



*concreting*

*finished piles*

# FUNDEX – a manufacturing process tried and tested

By means of a hydraulically driven rotary table a thick-walled steel tube which is closed at the end with a cast-steel tip is driven into the ground at a vertical force of 250 kN and a torque of up to 450 kN. The tip is positive-fit with the tube by a tooth system which was made watertight with a sealant.

The cast-steel tip is provided with screw gears in order to displace the soil sideways and to compact the ground surrounding the ready cast pile.

Pushing and drilling the ground an excavation respectively cavity is created which is later on to be filled with concrete and thus a new pile comes into being.

After having reached the desired depth the aridity of the ground is being checked inside the driven steel tube, the reinforcement cage is being positioned and the entire pile length is being poured and filled to the top with concrete.The tube is then removed by left-hand and right-hand rotations and thus the concrete previously poured is finally released into the ground. The cast-steel tip, however, is not recovered and remains as a pile point in the ground soil.

The alternate rotational movement supports the compacting process of the concrete and thus the molded outside surface of a finished pile is being created.

After the curing process of the concrete is finished the pile can be capped at its nominal height and the reinforcement can be partly excavated and stripped for incorporating- and bonding purposes, e.g. to the paving or ground plate to be later on supported.

The boring unit is provided with caterpillars to be moved and repositioned as required on the construction site. However, the complete boring unit (including the frame leads and engine) can be lifted for changes of direction. Once this maneuver is completed the chassis is lowered to the ground again and the drilling work can be continued. This method is highly useful and helps to keep the construction ground almost free from damage.

## Advantages at a glance

- Vibration free manufacture
- Very high load bearing capacities
- High level of resilience
- Environmentally friendly and safe
- Low noise level
- No extra excavation works required
- No impact on ground water
- No risk of ground breaking
- No unnecessary pile lengths
- Inclinations up to 4:1 feasible
- High degree of mechanization
- Reinforcement according to statics all the way down to the cast-steel tip
- Tried and tested in more than 10.000 construction projects

KÖNIG
Pile foundations

Zertifiziertes Management-System
ZDH ZERT
DIN EN ISO 9001
Reg.-Nr.: Q1 0498001


**König GmbH**
**Stader Elbstraße 4**
**21683 Stade**
**Germany**
**Phone: +49 41 41 49 19-0**
**Fax: +49 41 41 49 19-44**
**E-Mail: info@pfahlkoenig.de**
**www.pfahlkoenig.de**

**Werder**
Adolf-Damaschke-Str. 69–70
14542 Werder/Havel
Germany
Phone: +49 3327 6633-3
Fax: +49 3327 6633-44
E-Mail: werder@pfahlkoenig.de

**Oberhausen**
Waldhuckstr. 92
46147 Oberhausen
Germany
Phone: +49 2 08 62 55 08 32
Fax: +49 2 08 62 55 08 33
E-Mail: wagner@pfahlkoenig.de

**Austria**
Herr Dipl.-Ing. Dr. Erich Schwab
Schlägergasse 4
A-1130 Wien
Austria
Phone: +43 1 8 88 79 49
Fax: +43 1 8 88 79 49
E-Mail: erich.schwab@aon.at

## Our Expertise – 50 Years of Special Civil Engineering Underground

**The König GmbH is a medium sized and family-run building company with headquarters in Stade on Elbe and branches in Werder on Havel near Berlin and in Oberhausen in the Ruhr area as well as a representative office in Austria. Ever since our foundation in 1955 we have been carrying out pile and foundation works for all kind of construction projects and are proudly looking back on more than 50 years of expertise in the field of special civil engineering underground.**

**Since 1979 we have been working in the field of manufacture of slim cast in situ piles and our company developed into a genuinely high performance supplier with a very strong market position in Germany. Whatever the requirements for a particular building project might be – we can provide the ideal solution. Beyond that, we are the market leader in Germany for the manufacture of vibration free FUNDEX full displacement bored piles.**