

RSS® Flüssigboden and drilled piles technology

Drilled piles are technical measures for deep foundations or securing excavation pits; they are executed with various diameters (30 to 180 cm) and drilling depths (up to approx. 70 m) and also at an angle (slope up to 1:4). The RSS® Flüssigboden used for backfilling has properties that can be adjusted depending on the project.

Drilled piles

- Drilled pile technology can be used to secure excavation pit walls in the form of drilled pile walls in order to prevent soil from slipping into an excavation pit. With the drilled pile wall, one drilled pile is constructed next to another (excavation pit enclosure wall).
- Drilled piles are used to prevent the soil from slipping back into vertical boreholes or to stabilize the soil.
- In the case of non-load-bearing soil with a layer thickness of more than 4.00 m, where measures to improve the subsoil (soil replacement, soil consolidation with injections, deep vibration etc.) are not possible, drilled piles are used to transfer the loads of a structure similar to a pile structure into the deeper load-bearing soil layers.

Production of drilled piles

A large drilling machine is used to drill holes into the ground using the rotary drilling method. These are then filled with liquid soil to the planned height.

*Rotary drilling method

A rotating steel pipe is driven into the ground, while an earth auger (drill) transports the soil inside the pipe to the surface. The pipe remains in the subsoil until it is filled to prevent soil from getting into the borehole. Immediately after or already during the filling of the hole with liquid soil, the pipe is pulled out.



Reference projects

Construction project: Berlin U5
(metro line)

Construction period: 2013

Builder: BVG Berlin

Planning: LOGIC Logistic
Engineering GmbH



Construction project: Separation
watering system

Construction period: 2011-2013

Builder: Lübeck disposal facilities

Planning: LOGIC Logistic
Engineering GmbH



Properties of the liquid soil according to requirements and source material

- The liquid soil must be homogeneous and free of any tendency to segregation.
- Depending on the source material and technological aids, the liquid soil sometimes has to maintain its required properties even at high falling heights.
- The viscosity must be high enough to prevent segregation and low enough to ensure cavity-free placement.
- Strength and elasticity in the form of load-bearing capacity or unconfined compressive strength according to technical planning.
- Friction coefficients, pumpability, water permeability and other properties according to technical planning specifications.
- Re-use of almost every excavated material possible

