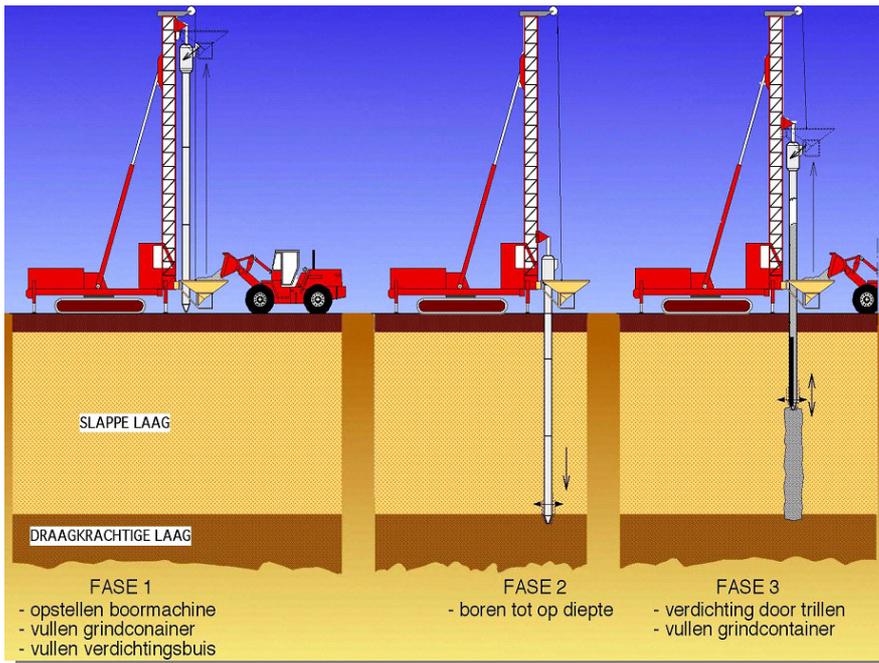
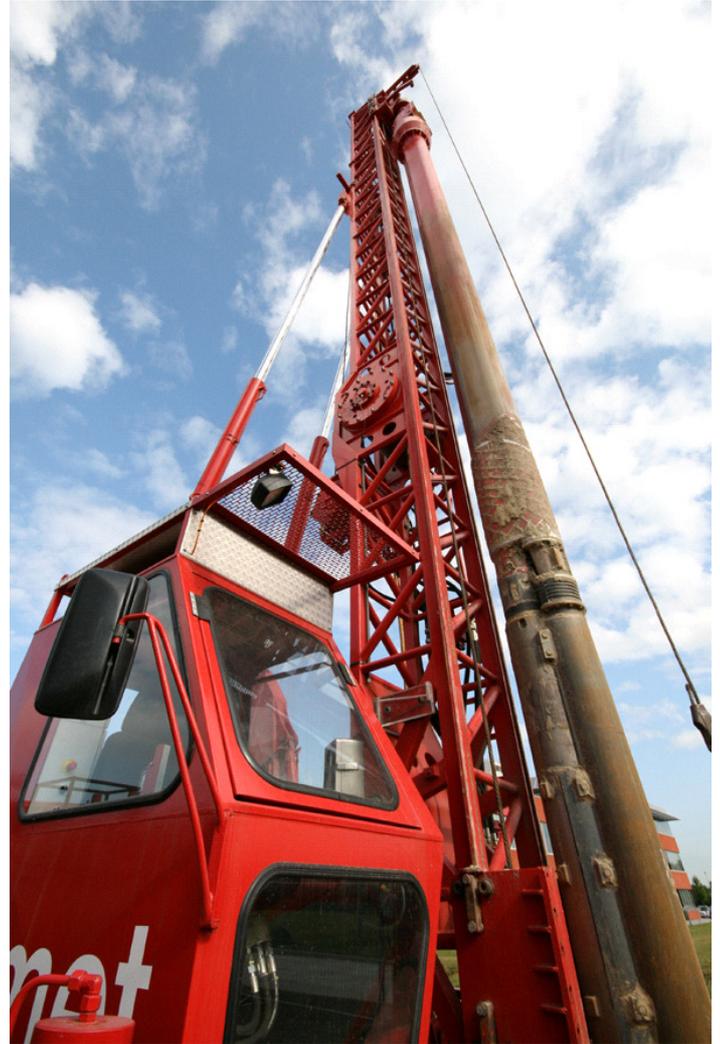




Gravel coring is a ground stabilisation method that significantly enhances the load bearing capacity and settling characteristics of the original ground strata. Gravel is injected into the ground at the desired depth through a hollow vibrating rod, which also presses the gravel into the soil and compacts the gravel.

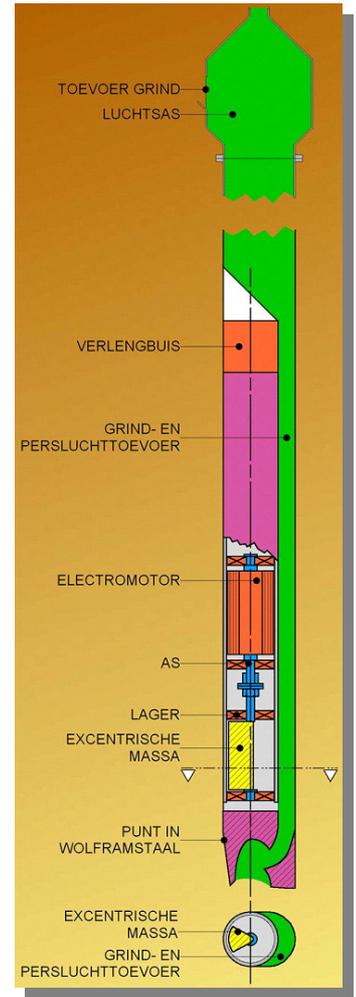
Execution

A continuously vibrating rod is forced into the ground until it reaches the desired depth, driven by the combination of its own weight and a downward force. This radially displaces the native soil, producing a cylindrical space that is held open by compressed air. Once the load-bearing stratum is reached, the vibrating rod is lifted approximately 50 cm and gravel driven by compressed air is injected into this space through a transport tube reaching from ground level to below the end of the vibrating rod. The gravel is then pressed into the bore wall by the vibrating rod until the absorption capacity of the soil in the zone concerned is reached. A highly compacted continuous gravel column is formed in the ground by stepwise retraction of the vibrating rod.



Applications

- In residential construction:
 - * Beam grid and footers on gravel cores.
 - * General foundation slab on ground stabilised by gravel cores.
 - * Conventional continuous concrete footers resting on gravel cores.
- In light industrial construction, it is often sufficient to provide lightly reinforced concrete footers beneath the building structure, with these footers resting on several gravel cores.
- In the case of a heavily loaded industrial floor, a good solution is to construct a gravel core grid underneath the floor (reduced settling).
- Gravel cores in an embankment increase the average angle of internal friction and therefore increase the safety margin for sliding.
- Gravel cores for ground stabilisation under collectors (reduced settling).
- Gravel cores for ground stabilisation under wind turbine foundations (increased load bearing capacity and reduced settling).



Advantages

- Little lost time: gravel cores may be loaded immediately after the top 80 cm is excavated.
- The density and reinforcement percentage of concrete slabs on gravel cores can be much lower than with beam structures.
- For the same load bearing capacity, gravel cores are usually shorter than piles.
- Prefab concrete footers (regarded as footers on bare ground) can be used.
- The length of gravel cores can be adapted to the soil conditions.
- The load bearing capacity of gravel cores can be increased by adding cement to the gravel.

