



Global Strength and Local Focus

- Ground improvement
- Heavy foundations
- Grouting
- Earth retention
- Near shore marine works

Geotechnical solutions for the construction industry



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Around 1.1 billion people live in Africa, accounting for 16% of the world's population. Large parts of the continent contain emerging nations with all their opportunities and challenges. Urbanisation and industrialisation demand huge investments in infrastructure, industrial and residential areas, as well as commercial buildings and energy utilities.

Keller, a global leader in geotechnical solutions, is proud to contribute to the development of the African continent by laying solid foundations for demanding construction projects – roads and railways, ports, renewable and conventional energy projects, nearshore and onshore industrial installations and residential and commercial buildings. By combining our global strength and local focus, we give our customers cost-effective and innovative ground engineering solutions of the highest quality.



Stability and safety for challenging constructions

The most renowned construction companies work with Keller, and so do the best civil engineers. There are good reasons for this.

Keller provides ideal solutions for all geotechnical requirements. Our comprehensive product portfolio, our global expertise, our engineering experience and our ability to meet our customer's needs have made us the preferred ground engineering partner. Our people develop and realize best-in-class solutions for customer problems: reliable, efficient, flexible, in high quality and always compliant with standards, laws and regulations.

Our guiding principles

Reliability is our licence to operate

You can count on us for many reasons. But mainly because we understand that a slight mistake by us would put the projects of our customers at risk – with painful financial or even life-threatening consequences. We live up to this responsibility by keeping our promises on engineering, techniques, quality, time schedules, costs, compliance and any other relevant aspects.

Solutions drive us

It is our role to help find and realize the best possible ground engineering solutions for their projects. We are always looking for the perfect way to not only meet the customers' technical specifications but to also meet their requirements on costs, endurance and sustainability.

Flexibility ensures results

We have an unrivalled global network of outstanding civil engineers and geotechnical experts. We can call on them to quickly provide answers to any ground engineering challenge in any place of the world. We are driven by results, not by the way to get there.

Quality may not be compromised

Premium quality is not always the right quality. Our experience has told us that cost-benefit ratio and consistency are far more important to meet the needs of our customers. In other words: We never try to sell premium where standard is more applicable. But our engineering teams ensure that whatever we offer is the best solution for the particular geotechnical demand. And what we finally carry out always meets the required specifications.

Efficiency is an obligation

It's as simple as that. The purpose of any of our products is to satisfy our customers. Our unrivalled range of technical choices put us in the position to offer what best suits the particular requirements. Our portfolio comprises solutions for any geotechnical problem. Our global network of experts and our proximity to our customers enable us to bring whatever is required to any site in the world. In other words, we don't need to sell what we have but can offer what is needed. The consequence: efficiency without compromises.

global strength
and local focus

We are proud to contribute to our customers' projects

Growth is fueled by some of the prevailing trends of our societies: urbanization, globalization, infrastructure renewals and exploding megacities. In this flowering marketing environment there is space for both huge globally operating construction companies specialized in large infrastructure, industry and energy projects and for local suppliers of smart solutions for smaller but no less important constructions.

Sub-Sahara Africa as one of the emerging world regions will benefit from these developments and provide ample challenges for excellent civil engineering solutions.

Due to our presence in more than 40 countries world-wide we are always close to our customers. All our affiliates operate in an integrated well-structured network of expertise.

Our customers always have access to any part of this network. Centres of excellence provide support for the continuous development of methods and equipment and the transfer of technology between Keller companies worldwide. Regardless if we lay the foundation for huge infrastructure endeavours or whether we provide excavation support for a small residential building, we never compromise on safety, quality, efficiency and engineering excellence. We combine local market know how and global expertise to remain the No 1 geotechnical company in the world, sought after by our customers and by the best civil engineering people.



Keller in Sub-Saharan Africa

Keller offers a comprehensive range of services which ensures that its customers benefit from the most cost-effective solutions for their geotechnical requirements. Keller operates in sub-Saharan Africa and the Indian Ocean Islands and has the experience, capability and capacity to undertake projects of all sizes. Keller's comprehensive product range is further enhanced by its in-house geotechnical investigation capability, as well as its design department.

Keller Africa has facilities and offices in the main centers of Johannesburg, Cape Town and Durban in South Africa and regional offices and facilities in Port Louis (Mauritius), Maputo (Mozambique), Kampala (Uganda) and Dar Es Salaam (Tanzania) on the East Coast of Africa.

Our values are important to how we want to work: **Integrity** - we always behave with integrity towards our customers, colleagues and the communities within which we work; **Collaboration** - our teams collaborate across borders and disciplines to bring our customers the best of Keller and to build a stronger business for the future; **Excellence** - in all we do we target excellence; whether it's geotechnical engineering, project management or people development, we strive to deliver to the highest standards.

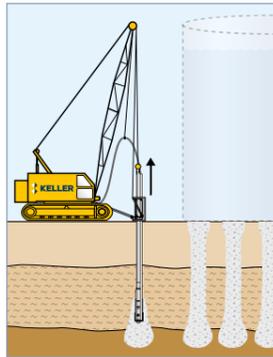
Near shore marine works

Design and construction of all elements of harbour work including dry docks, fixed or floating break-waters, jetties and quays, the construction of mooring dolphins and dredging or land reclamation.

Solutions

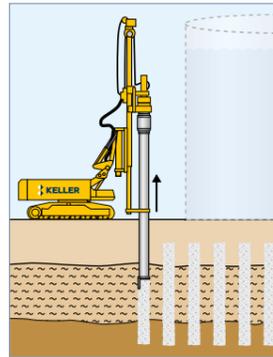
Ground improvement

Ground improvement techniques are used to prepare the ground for new construction projects and to reduce the risk of liquefaction in areas of seismic activity.



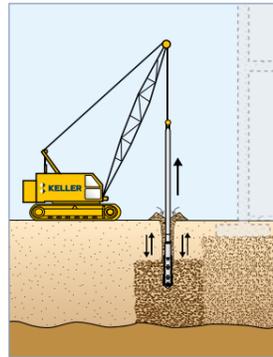
Vibro replacement

Vibro replacement provides stability in granular soils with high fines content and in cohesive soils. It uses company designed machines to densify and at the same time partially replace the soil with stronger material.



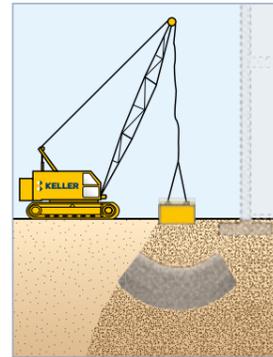
Rigid inclusions

Rigid inclusions transfer loads through weak strata to a firm underlying stratum using high modulus, controlled stiffness columns.



Vibro compaction

A site improvement technique for granular soils to depths of up to 40 m. It increases bearing capacities, reduces settlements and also mitigates liquefaction potential in seismic areas.

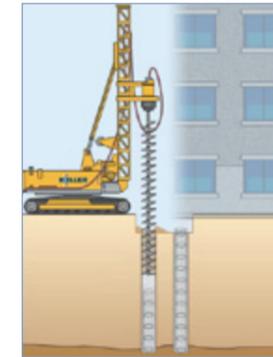


Dynamic compaction

Dynamic compaction increases the soil density by dropping heavy weight repeatedly on the ground at regularly spaced intervals. The free fall impact results in densifying stress waves. Old fills and granular soils are most often treated by Dynamic compaction.

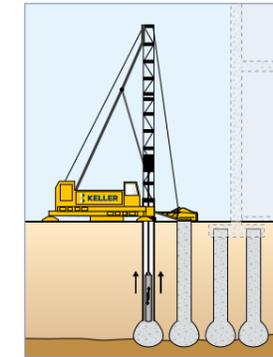
Heavy foundations

Heavy foundations are required whenever weak soils have little capacity to resist an existing load or a change in existing load. They involve the construction of structural elements to transfer loads down to stronger underlying soils or rock.



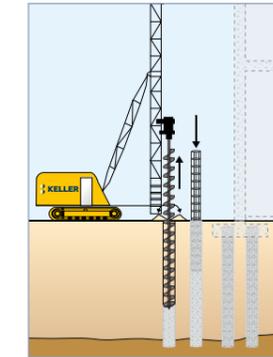
Bored piles

Bored piles of concrete are an economical means of supporting high structural loads with minimum settlement. Depending on ground conditions and application these can be augered, underslurry or cased.



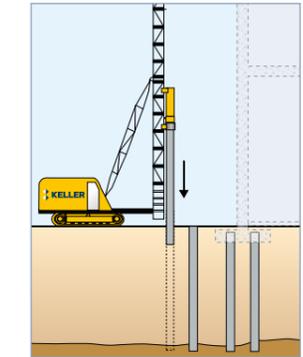
Franki piles

Franki piles provide a reliable and economical deep foundation solution for a wide range of applications and ground conditions. The enlarged base gives the "Franki" significantly enhanced load capacity and excellent settlement performance making it suitable for the most challenging of projects.



CFA piles

A CFA piling system provides a quiet low vibration form of piling that is ideal in built-up areas. Keller's CFA rigs can construct piles in most soils and in high water tables without the need for temporary support systems.



Driven piles

Driven piles are elements driven to a design depth or resistance. If penetration of dense soil is necessary, predrilling may be required. The finished foundation element resists compressive, uplift and lateral loads.

SOLUTIONS



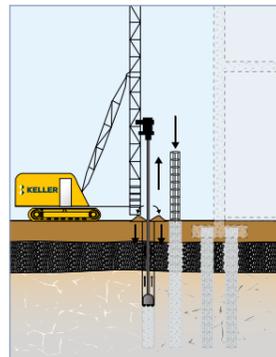
Heavy foundations

Grouting

Grouting strengthens the ground and controls ground water flow.

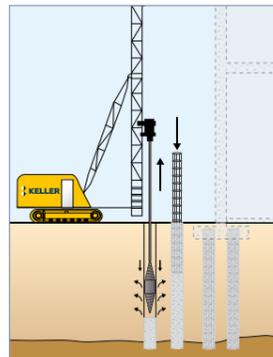
Earth retention

Earth retention systems are used to solve a wide range of geotechnical solutions from slope stabilisation to excavation support by using a single or a combination of geotechnical products.



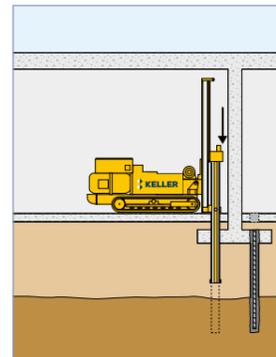
Bored piles percussion (Rotapiles)

The main feature of this piling system is its ability to penetrate boulders and rock formations. Socketing into hard rock is effected rapidly using the 'Down the Hole Hammer' (DTH) percussion drilling technique.



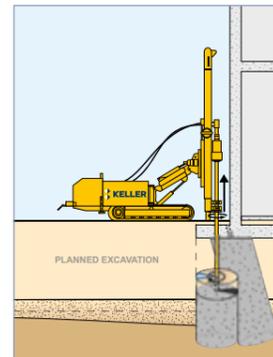
Displacement piles

Displacement piles are a fast and economical piling methodology with no vibrations and limited noise levels. It has overcome many of the limiting features of the CFA pile and exhibits equivalent pile performance to a driven pile.



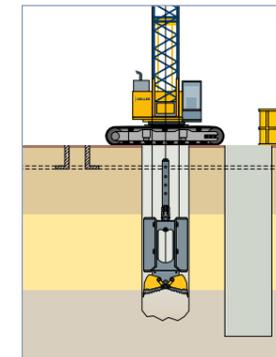
Micropiles

Micropiles are small-diameter, low- to high capacity structural elements that can provide compressive, tensile, or shear support as foundation or slope stabilisation components.



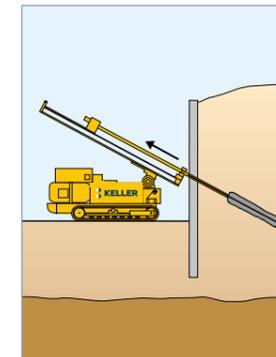
Jet grouting

Jet grouting is an erosion/replacement system that creates a soil / cement product (Soilcrete®). Jet grouting is a versatile and valuable tool for soft soil stabilisation, underpinning, excavation support and groundwater control.



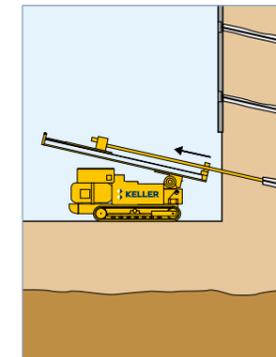
Diaphragm wall

Diaphragm walls are supporting walls. They are designed using a trench in the ground that is supported by a fluid like bentonite. Finally a permanent material will replace the bentonite.



Anchors

Rock and soil anchors offer an economical solution to temporary or permanent stability or support problems – e.g. for dam stabilisation, or to resist wind-produced uplift forces.



Shotcrete and Geonails

Soil Nailing provides a cost effective solution to slope stability and earth retention problems on highway widening schemes, railway cuttings and for commercial developments.

Bay of Plenty pier

The Bay of Plenty lies at the heart of the vibrant beachfront of Durban. It attracts an increasing number of tourists year by year and is a renowned venue of sports activities. Surfers rate the Bay of Plenty as having consistent waves and the shark nets in place offer a safe way to enjoy them. The Bay of Plenty's pier is a favourite spot for anglers.



Products used

- Steel piles
- Civil construction
- Bored piles – Cased
- Scour protection

Franki contributed to make the Bay of Plenty beach even more attractive. It laid the foundation of a new pier with piles, scour protection and constructed a new reinforced concrete deck.

The re-construction of the pier was technically extremely challenging. High tides and unsteady, partially strong winds translated into special requirements for this project.



Gibson Bay wind farm

Gibson Bay is the largest wind farm in South Africa. A total of 37 turbines care for an installed capacity of more than 110 MW. Owned by ENEL through its subsidiary Enel Green Power RSA ("EGP RSA"), the wind farm started operations in spring 2017. It is supported by a 20-year energy supply agreement with the South African utility Eskom, as part of the Renewable Energy Independent Power Producer Procurement Programme tender promoted by the South African government.



Products used

- Dynamic compaction
- CFA piles

The Gibson Bay wind farm is capable of generating around 420 GWh per year, equivalent to the annual consumption needs of around 131 thousand South African households while avoiding the emission of over 383 thousand tons of CO₂ into the atmosphere each year.

Ground engineering for renewable energy installations is one of Keller's core competencies. In Gibson Bay, Franki Africa's technology and know-how ensured the enduring stability of the wind turbines.



Gautrain - JHB

Gautrain is a rapid transit railway in Gauteng, ZA, connecting Johannesburg, Pretoria, Ekurhuleni and O.R. Tambo International Airport. It is 80 km long and was designed to relieve the traffic congestion in the Johannesburg–Pretoria traffic corridor. The first part of the system, opened to the public in June 2010, the last section from Rosebank to Johannesburg Park station in June 2012.



Products used

- Bored piles – Open hole
- Dynamic compaction
- Franki piles
- Shotcrete
- Anchors
- Bored piles percussion (Rotapiles)
- Access/Drop Shafts
- Bored Piles – fluid supported

Franki Africa provided site investigation and geo-technical works for the construction of this enormous infrastructural endeavour. Some on a design and build, some on a design and construct basis.

Franki Africa contributed to Park station, Rosebank station, Sandton station, viaducts 5 and 6, Dale and New Road underpasses as well as structures and lateral support in the greater Pretoria area.



High ethical standards as a contribution to sustainable growth

We are committed to the needs of all our stakeholders – customers, employees, governments, NGOs, suppliers, shareholders and, most of all, the people on our planet. We always act in their long-term interests.

Child labour / forced labour

We support every individual's human rights and reject the use of child labour and forced labour under any circumstances. We expect all of our directors, officers and employees and those working on our behalf to comply with this principle.

Compliance

We are convinced that compliance is the only way to accomplish fairness for all our partners: customers and their customers, suppliers, our employees, governments, NGOs, financiers and to ourselves. Consequently, we never compromise on compliance. Our own people – managers, engineers, operators – and also our suppliers must respect any international, national and local laws and regulations.

Our local subsidiaries and teams look upon themselves as corporate citizens of the country they operate in. And they behave accordingly.

Environment

At Keller, we acknowledge the responsibility of being part of the construction industry. We are aware that any kind of construction done by human beings has an adverse impact on our planet. However, there is no alternative to provide housing, infrastructure and workspace for a rapidly growing world population. Consequently, we always strive to reduce our environmental footprint to an absolute minimum by using environmental friendly materials, by sealing our excavation pits and by avoiding any kind of enduring pollution.

Health and safety

We bear responsibility for our people. Health and safety are vital elements of our operational principles. We train our employees and our suppliers in observing safety regulations and avoiding accidents. We design working environments to be as safe as possible and comply with labour laws.



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