Large diameter bored piles of concrete or reinforced concrete are an economical means of supporting high structural loads with minimum settlement.
Bored Piles

Piles are a powerful, state-of-the-art construction element with many applications in civil engineering and building. As contiguous, or secant pile walls in water bearing soils they are used to secure deep excavations or retain slopes. In piled foundations they are used at various diameters as single piles or pile groups.

Depending on the application, all bores are either concrete filled (with or without reinforcement), or filled with removed spoil. Occasionally steel sections are inserted as plunge columns or in cases of high lateral load.

Construction methods

**Kelly bored piles**

We can install Kelly piles using augers or core barrels in the common diameters 620, 880, 1180 and 1500 mm. The piles can be installed to depths of up to 40 m either vertically or inclined, with casing, or with suspension support.

**FOW Drilling**

Using a special rig, front of wall (FOW) piles with diameters of 406 or 508 mm can be executed to a depth of up to 12.5 m – allowing work close to buildings or walls.

**Continuous Flight Auger Drilling**

We execute CFA (continuous flight auger) piles with diameters of 430, 550, 630 and 880 mm to a depth of up to 26 m.

**Grab excavations**

In Alpine regions we use grab drilling with diameters of 880 and 1180 mm.
Applications

1 Foundations
Large diameter bored piles are particularly effective in transferring high loads. They are thus excellently suited for foundation works in nearly all types of soil.

2 Stabilisation of excavation pits
In inner-city areas it is essential that the spaces between buildings are fully utilised. Piled walls are an established method of retention on the boundary or close to adjacent buildings. They can be combined with other geotechnical solutions such as Jet Grouting to form near water tight pits.

3 Slope Stabilisation
Slope stabilisation is necessary to prevent landslides and protect existing buildings and structures. Here, large diameter bored piles are regularly used often combined with other techniques such as ground anchors or soil nails.

4 Infrastructure
Whether in tunnelling, in road or bridge construction or in measures for flood protection, large bored piles can be used in a multitude of ways and are often found in infrastructure projects.

Quality Assurance
Large diameter bored piles usually have to withstand high loads, and we therefore use a variety of quality-assurance methods for our products.

Digital recording and logging of the execution parameters

Integrity testing

Pile loading tests
Reference Projects

- **Foundation**
  - 2015 Park & Ride complex, Perfektastraße, Vienna (CFA piles)
  - 2015 Crematorium, St. Marienkirchen an der Polsenz (Kelly piles)
  - 2015 Silo Mayr-Melnhof Karton, Frohnlieiten (Kelly piles)
  - 2014 Sterilisation Plant Mediscan, Kremsmünster (CFA piles)
  - 2013 Liese Prokop School, Maria Enzersdorf (CFA piles)
  - 2013 BMW Heiligenstadt, Vienna (CFA piles)
  - 2013 Dental clinic, Graz (CFA piles)
  - 2013 Beck plot, Hohenems (CFA piles)
  - 2012 Housing complex and Kindergarten Löwenpark, Melk (CFA piles)
  - 2012 MED Campus ZWT, Graz (Kelly piles)
  - 2012 Fire-brigade building, Götzis (CFA piles)

- **Excavation pits / Retaining walls**
  - 2015 Semmering base tunnel BL 2.1, Tunnel Fröschnitzgraben – shafts (Grab piles)
  - 2015 Housing complex Gemeindeaugasse, Vienna (FOW piles)
  - 2015 Multi-storey Car Park, Nordbahnstraße, Vienna (Kelly piles)
  - 2015 Plant room Münze Austria, Vienna (CFA piles)
  - 2015 Housing complex, Graz (CFA piles)
  - 2014 Housing complex Agnesstraße, Klosterneuburg (FOW piles)
  - 2014 Housing complex Paulusgasse/Petrusgasse, Vienna (FOW piles)
  - 2014 Housing complex Rennweg, Vienna (FOW piles)
  - 2014 Housing complex Spallartgasse, Vienna (FOW piles)
  - 2014 Housing complex Plüddemangasse, Graz (CFA piles)
  - 2014 Housing complex Gutenbergstraße, Vienna (FOW piles)
  - 2013 Shopping centre Stadtcoase, Tulln (CFA piles)
  - 2013 Housing complex Migazziplatz, Vienna (CFA piles)
  - 2013 Logistics building hospital Graz (Kelly and CFA piles)
  - 2013 MED Campus Module 1, Graz (CFA piles)
  - 2013 House and office Friesacher, Anif (Kelly piles)
  - 2012 Housing complex Angeligasse, Vienna (FOW piles)

- **Slope Stabilisation**
  - 2015 Semmering base tunnel BL 2.1, Tunnel Fröschnitzgraben (Kelly piles)
  - 2012 New Hofer branch, Pischelsdorf (CFA piles)

- **Infrastructure**
  - 2014 Bypass S36, St. Georgen ob Judenburg (Kelly piles)
  - 2014 Lambach North Bypass, East Section (Kelly piles)
  - 2011 Flood Protection Spitz/Danube (Kelly piles)