METRO PILING

DRIVEN PRECAST CONCRETE PILES

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EXPERTISE

Driven PCC piles are a total engineering solution. They are the most versatile deep foundation technique available and are suitable to most ground conditions, including soft alumina deposits, made ground and contaminated ground. A wide range of pile sizes, joints and rig types allow PCC driven concrete piles to be used as the foundations for the majority of structures, including commercial, industrial, domestic dwellings, marine and heavy civil works.

PCC piles consist of segmental lengths of reinforced concrete sections of nominal length between 3m and 15m. These sections are driven into the ground for any length and transfer superstructure loads to an underlying founding strata of suitable strength. Piles can be a single section, or several sections can be jointed to provide longer piles for deeper ground conditions.

PCC driven piles provide a quick and easy installed, cost-effective form of deep foundation. They do not produce spoil during installation and are classed as displacement piles as lower level strata is displaced as the pile is driven deeper into the ground. During displacement the soil at the toe of the pile is compacted to a greater density and the driven pile can be capable of increased end bearing capacities. Additional pile load capacity is gained in skin friction along the shaft of the driven pile.

A displacement pile does not have a “soft bottom”, so large settlement characteristics are eliminated for driven piles. Groups of driven piles densify the adjacent strata and enable increased pile load capacities in comparison to other pile types of similar size/diameter.

Driven PCC piles maintain their shape during installation and are not susceptible to necking or loss of integrity. Dynamic pile testing will easily calculate the structural capacity of a pile and will determine the pile’s interaction with the surrounding ground and its integrity along its shaft length. Static pile testing can be used to physically measure the compressive, shear, tension and moment capacity of a pile.

TARANTO PCC DRIVEN PILE CAPABILITIES

PCC Pile Size (mm²)	200	235	250	275	300	350	400
Compression (kN)	400	600	600	1000	1000	1200	1500
Lateral/Shear (kN)	54	169	84	169	84	240	–
Tension (kN)	–	270	–	270	47	393	410
Moment (kNm)	4	30	27	47	47	98	105
Reinforcement detail:							
Simple Compression detail	✔		✔		✔		
Prestressed		✔		✔	✔	✔	✔
4 T12 Full Length			✔		✔	✔	✔
8 T12 Full Length					✔	✔	✔
12 T12 Full Length					✔	✔	✔
Pile Joint Detail:							
Simple Compression Joint	✔	✔	✔		✔		
Simple Mechanical Joint		✔		✔	✔		
Multi-Bar Tension Joint					✔	✔	✔
Full Mechanical Balken Joint		✔		✔		✔	✔
Typical Rig Weight (Tonnes)	18-22	22-25	22-25	25-60	25-60	25-60	45-60

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OUR PRODUCT BENEFITS

- Multi Pile Range no over design and value engineering provided.
- Range of Pile Jointing systems increased pile versatility and load capacities.
- ISO 9001 and CE Accreditation consistent, reliable quality assured products.
- In-house Design Team bespoke geotechnical design based on site soil investigations.
- Pile Testing Team providing real-time pile testing results to enable follow-on trades.
- No spoil or wastage providing considerable cost savings.

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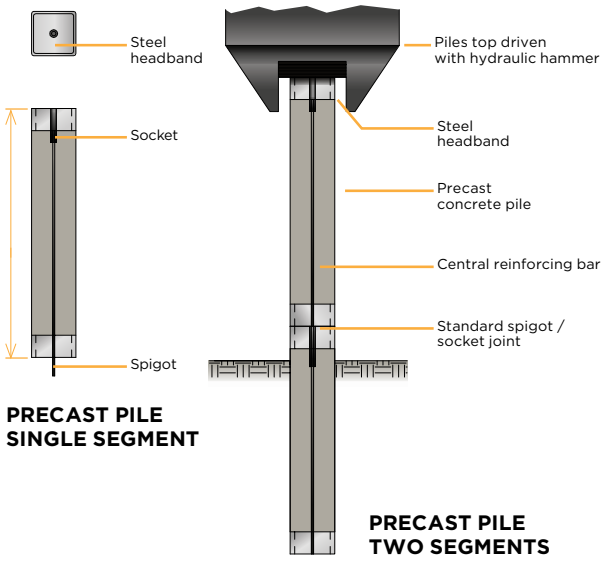
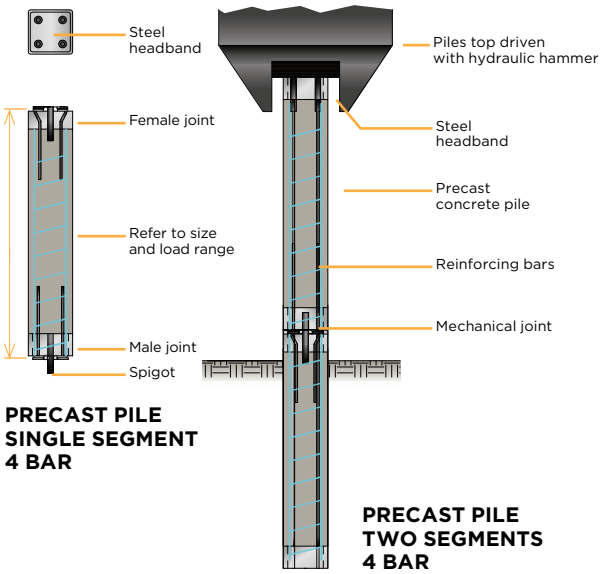


PRECAST PILE SINGLE SEGMENT

PRECAST PILE TWO SEGMENTS



PRECAST PILE SINGLE SEGMENT 4 BAR

PRECAST PILE TWO SEGMENTS 4 BAR

FULLY REINFORCED, MECHANICAL JOINT SYSTEM