

Driving Piles for Wind Turbines



AARSLEFF

GREEN ENERGY



The demand for green energy is growing consistently. In the UK especially, the wish for a more CO2 friendly energy production has led to the establishment of some of the world's largest offshore wind farms.

Aarsleff benefits from the experience and established track record of our Danish parent company and German sister company, who between them have designed and installed the Centrum Pile System for thousands of wind turbine foundations on the mainland of Europe in this specialised sector of the construction industry.

In the United Kingdom we have become an industry leader in the design and installation of piles to support wind turbines, Biomass Plants and Power Stations. Aarsleff work closely with designers and developers to meet the exacting requirements of our clients.

Uniquely, Aarsleff works in collaboration with many major utility companies installing the foundation piles for wind turbines across the country. Erected in often remote, difficult or extreme locations and on grounds of varying geology, Aarsleff has built a reputation of success.

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BENEFITS OF A PRECAST PILE



- Precast Piles use less natural aggregates and cement per unit load bearing capacity than techniques in which the pile is formed in the ground with wet concrete.
- Less road transport is required for delivery of materials to site.
- On site it is quite normal to achieve high rates of installation and shortened programme periods. There is no waiting time associated with concrete curing before the piles are trimmed and incorporated into the foundation.
- Integrity of construction is beyond question with a product manufactured under quality assured factory conditions with full traceability records.
- To erect these structures on poor ground requires a good working platform. The driven precast concrete pile offers a clean foundation solution that will not contaminate or weaken the platform with bore spoil.
- The nature of the loads imposed on a wind turbine piled foundation are most efficiently resisted by circular arrangements of piles within a round or octagonal base.
- This avoids the potentially asymmetric load distribution in a square or cruciform base that can occur with changes in wind direction.
- Piles can be readily installed in a raking configuration to resist the applied horizontal loads, consequently less piles are required than when using vertical piles. Main reinforcement can be tailored to resist the magnitude of uplift load on the piles.



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