

Abstract GD2025

Title	Prefab Screw Pile: Innovative Solutions for Sustainable Foundations in Scandinavia
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In Scandinavia, the newly introduced Prefab Screw Pile represents the latest development in full displacement pile systems, designed to tackle both current and future challenges. This pile system reduces environmental impact significantly by lowering noise, vibration, and concrete usage, all while maintaining the advantages of prefabrication.

Two completed projects will be presented, each with different constellations determining the choice of pile system:

- First the pile foundation of a mega car factory near Berlin, Germany, where concerns around the underlying drinking water reservoir and very sensible production facilities in the vicinity of the piling works were to be considered.
- Secondly the piling works for an office facility in Middelfart, Denmark, where a deeper anchor layer restricted possible pile length and bearing capacity as well as a very low acceptable level of noise and vibration were the determining issues.

Together with the above-mentioned project findings, a test project in Hedensted, Denmark, where installation, bearing capacity and pile integrity were in focus, the presentation will highlight key results from product and concept developments, looking at:

- Inner and outer bearing capacity, including findings from static load tests conducted on-site
- Integrity assessments through the excavation of installed piles
- Installation challenges, such as down-pull, pitch, and torque parameters

The presentation will conclude by discussing the types of soil conditions suitable for this pile system and its potential applications as a foundation element. Finally, it will explore further research and development areas to address upcoming market challenges.

See Fig 1 below



Fig. 1 -Installation of Prefab Screw Pile