



## BLUE PILING

BLUE Piling is the newest addition to IQIP's extensive portfolio of innovative noise mitigation solutions that support an environmentally friendly installation. The BLUE Piling technology can be used to install the largest monopiles in the world and reduces noise at the source during installation. The

technology uses the impact of a large water mass over a long period to create a pushing force on the pile. As a result, the vibrations of the pile wall are reduced significantly. The BLUE Piling technology allows for very large pile diameters, making it perfectly suited for the next generation of monopiles.

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LET'S BUILD WINDFARMS





BLUE Piling Technology™ (patent pending) uses the impact of a large (water) mass to drive down monopiles. The BLUE Piling blows aims at silent installation of the next generation monopiles. Unique BLUE Piling Technology features:

## REDUCED UNDERWATER NOISE LEVELS

The typical BLUE Piling blow characteristics result in a significant reduction of underwater noise compared to a conventional hammer impact. Underwater noise measurements during a full-scale monopile installation have showed a reduction in underwater noise emissions of more than 20 decibel (SEL) when compared to conventional hammers.

## LOW ACCELERATIONS

During installation with BLUE Piling Technology, a monopile will experience low acceleration levels. This will allow secondary steel to be simplified and more secondary steel to be installed on a monopile prior to installation.

## REDUCED FATIGUE

The combination of low acceleration levels and reduced number of stress cycles will reduce the installation fatigue in primary and secondary steel.

## FUTURE PROOF

BLUE Piling Technology is not limited to a certain pile size and pile weight. If monopiles continue to grow in size the BLUE Piling Technology can follow this growth and is thereby a futureproof solution.

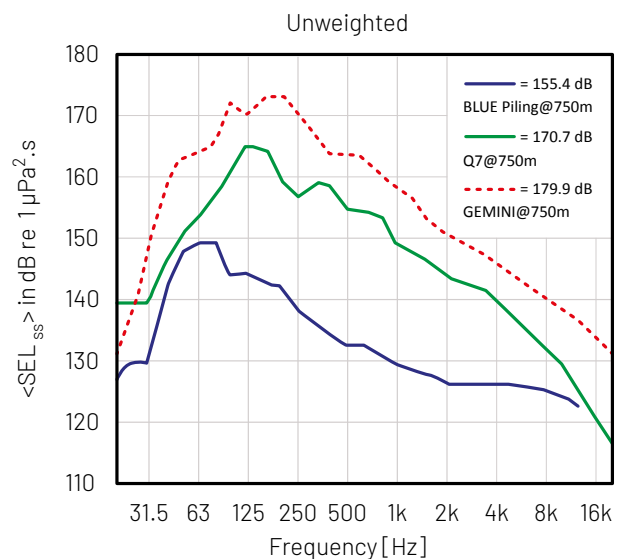


Figure 1: Offshore measurements confirm that the resulting underwater noise levels are very low. Therefore, monopiles can be driven without harming the environment