

SIT-series Pile Integrity Testing



Pile quality is often determined by performing a low strain integrity test directly after pile driving or within days after installation of cast-in-situ piles. This Sonic Integrity Test (SIT) of a pile is a quick non-destructive method for detecting pile defects in concrete piles. With a Profound *SIT* system you can verify the pile length and check the integrity of foundation piles on defects after installation. Testing can point out which piles require further examination.

Cost-effective

Pile Integrity Testing is a proven technique to check concrete piles in an efficient and non-destructive way before they are incorporated in the final foundation plan.

The Profound *SIT*-series meets the construction industry's demand for professional Sonic Integrity Testing of concrete piles. The *SIT*-series has been optimised for use in the field as well as for advanced interpretation and efficient management of the measurement data in the office. The *SIT*-models are robust, easily portable and user-friendly to operate at the construction site. One person can test numerous piles per hour.

Non-destructive Low Strain Integrity Testing

With each model of the *SIT*-series you can verify the pile length and detect irregularities and cracks in the pile shaft after installation. This applies to both cast-in-situ and prefab piles.

The measurement is performed by hitting the pile head with a hand-held hammer and measuring the response on the head with the sensitive and lightweight *SIT*-accelerometer. The *SIT* presents the measurement signal directly on screen, enabling a direct check of the quality of the measurement.

If approved, measurement signals are stored in the unit with additional information such as pile number, area, date and time stamp, gain and filter settings and notes. For each pile multiple signals should be acquired for proper evaluation. For further analysis, interpretation and validation the measurements are downloaded via USB to a Windows computer.

Innovative

Depending on the usage frequency and measurement purpose, Profound offers you the choice out of three models to meet your specific measurement needs. The Profound *SIT*-series comprises three models *SIT*, *SIT*⁺ and the topmodel *SIT*^{pro}.



Each model is provided with an accelerometer, cables, hammer and signal processing and analysis software. Depending on the chosen model, the *SIT* system enables you to continuously perform tests during 4 up to 8 hours with the integrated high-performance Lithium battery.

With a *SIT* system you also receive extensive documentation. Additionally, you can follow a training scheme where theory, operation of the system and interpretation of the measurement signals are discussed.

The *SIT* model has sufficient capacity and functionality to carry out integrity testing for quality control purposes and field checks by controlling engineers. The *SIT*⁺ model is especially designed for frequent everyday use with the up to 8 hours battery life and enhanced processing capabilities. The top of the line *SIT*^{pro} is equipped with all first-rate features including expert dedicated analysis software. This entails an integrated pile database module and more advanced interpretation tools such as pile average and group pile average. Thus enabling professional users to perform pile integrity testing in the most efficient, expert and state-of-the-art way.

Proven technology

The *SIT*-series meets national and international standards such as ASTM D5882-07, CUR aanbeveling 109, EA-Pfähle and AFNOR NF P94-160-2.

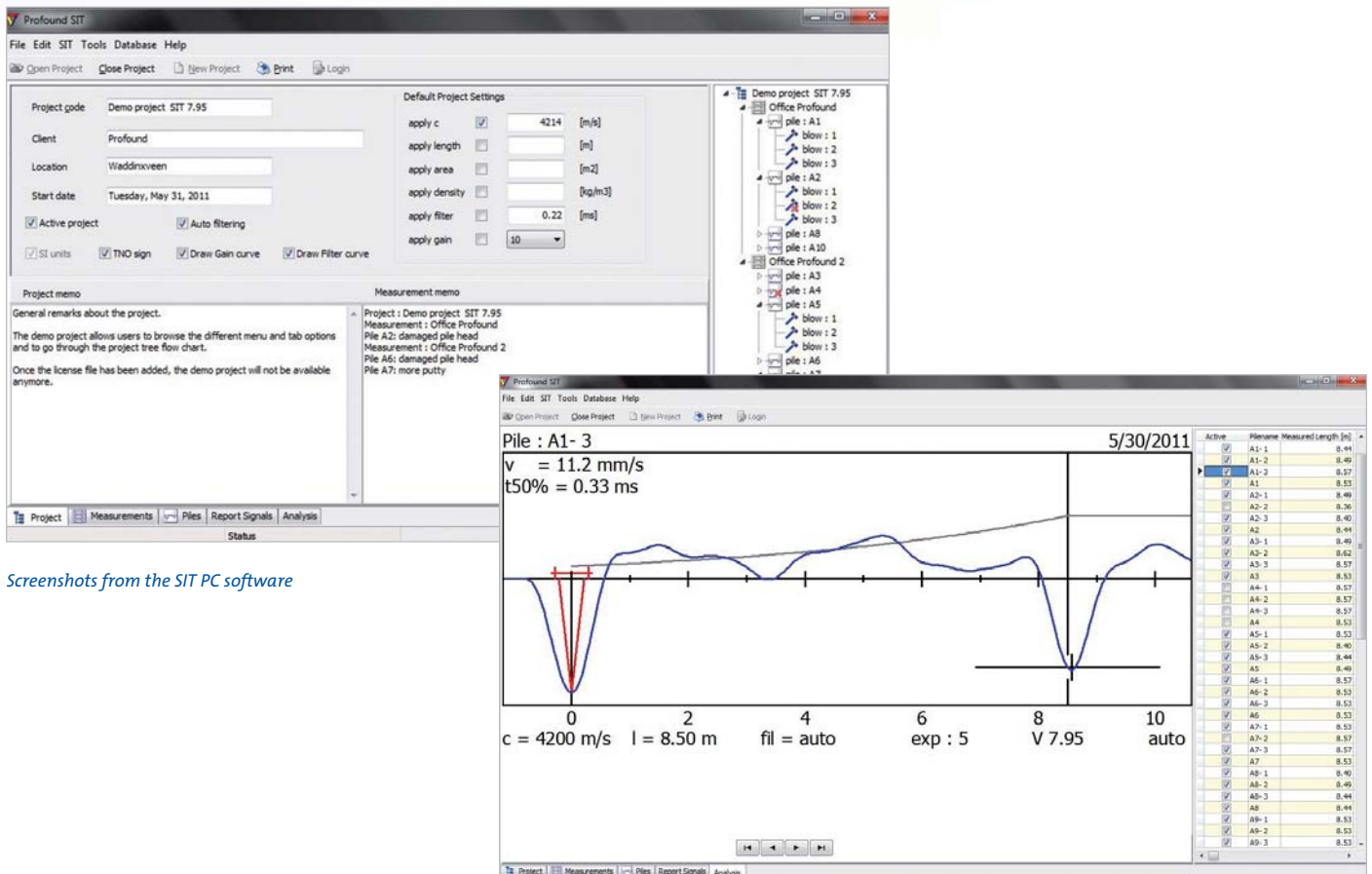
Since the early 1960s Sonic Integrity Testing has been performed to reduce the risk upon foundation failure caused by pile damage. Profound, pioneer in the field of professional pile testing research and equipment, has over 50 years worldwide experience and continuously strives to make the best technology available to the clients. The *SIT*-series is the latest generation of Profound sonic integrity systems. *SIT* has proven to be a reliable and professional tool. The reliability of the concept has been proven by the hundreds of *SIT* systems in use around the world.



SIT-series

Specifications SIT, SIT+, SIT^{pro}

Dimensions	: 248 mm x 164 mm x 38 mm
Weight	: 2.3 kg
Housing	: Robust hard anodized aluminium case
Protection rating	: IP65 rating according to DIN 40 050/ IEC 529 for housing and connectors
Display	: 5.7" TFT – LCD Transreflective Anti-reflex, anti-scratch colour display
Battery pack	: Integrated Lithium battery pack. SIT 4 hrs of operation. SIT+/SIT ^{pro} 8 hrs of operation
Storage capacity	: 1 GB
AD-converter	: 24 bits converter
Operating temperature	: - 20 °C to + 60 °C
Project Quality Control	: Data and time stamps per measurement Site location/GPS coordinates (SIT ^{pro} only)
Accelerometer range	: ± 500 m/s ²
Extensive technical specifications available at our website	



Screenshots from the SIT PC software

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