Allnamics - SIT
Sonic Integrity Testing

Powerful tool for determining the integrity of the pile shaft
In accordance to ASTM, CUR, etc for low strain impact testing

KEY BENEFITS

- SIT-USB can be connected to any laptop or pc with a USB port
- Efficiently reveals potential defects (i.e. major cracks, necking, soil inclusions)
- Pile length indication
- Easy to use software for measuring, interpretation and reporting
- Rugged and waterproof Sensor
- High quality hardware for maximum quality measurements to detect also smaller defects
- Supported by the Allnamics team with more than 50 years of experience
- Customer Support
- Extensive reporting options to PDF and MS Word format
- In compliance with international standards (ASTM, EuroCode, etc.)

Complete set of SIT equipment and tools in transport case

SONIC INTEGRITY TESTING (SIT/PIT)

Low Strain Impact Testing has been developed as Sonic Integrity Testing in the Netherlands in the 1960s. It's a fast and cost-effective testing method to determine defects in piles, to check the condition of deep foundation elements (as built versus designed or desired). Major cracks, necking and soil inclusions can be determined and indicates the pile length.

Sonic Integrity Testing to determine the conditions of foundation piles

SIT-USB DESIGNED BY THE INVENTORS

Allnamics has developed a state-of-the-art Pile Integrity Testing monitoring system which can be used in combination with the PDR (SIT-PDR) and with any laptop computer, vai an USB port (SIT-USB). With the advanced sensor, high quality sonic measurements can be made.

The professional SIT system is fully capable for the testing of deep foundations and foundation piles to efficiently reveal potential defects and indicates pile length.

The powerful and easy to use software enable to analyze the results directly on site. Signals and results can be shared with colleagues and office.

The testing engineer is supported by the voice response option of the SIT software.

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SOFTWARE FOR MONITORING, ANALYSING AND REPORTING

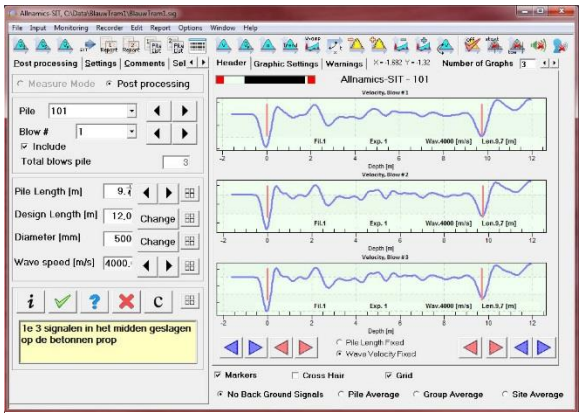
The SIT Software provides live graphical and numerical results of each blow as well as various quantities. Results can be presented and reported together with the Site Characteristic Signal, for a correct interpretation of the test results.

The SIT runs on any Windows platform, using its USB for connecting with the SIT Sensor

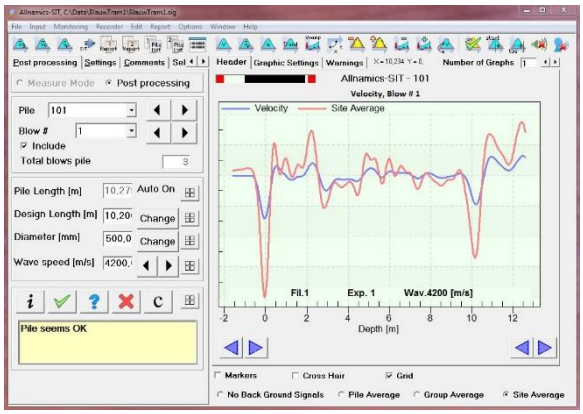
SITE CHARACTERISTIC SIGNAL

Low strain impact testing is based on the one-dimensional stress wave theory. Measured are reflections caused by changes in pile impedance; change in pile diameter or material quality. Also the shaft friction generate reflections and is influencing the signals. To distinguish reflections caused by soil from that of pile defects, signals of individual piles have to be compared to Site Characteristic Signal. The Site Characteristic Signal present all soil influences. Piles that shows signals deviating from the Site Characteristic Signal are suspected and needs extra analyse or additional testing.

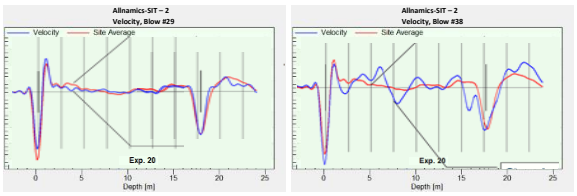
The Allnamics-SIT present all individual signal against the Site Characteristic Signal.



The screen can be switched between the Basic and Advanced mode. In the Advance mode, all options are presented, in the Basic mode the advanced options are masked



Individual signals can be plotted against the Site Characteristic Signal, to distinguish reflections of the soil from that of anomalies of the pile



Comparison of signals of a sound pile and a pile with anomalies with the Site Characteristic Signal shows directly the pile defects

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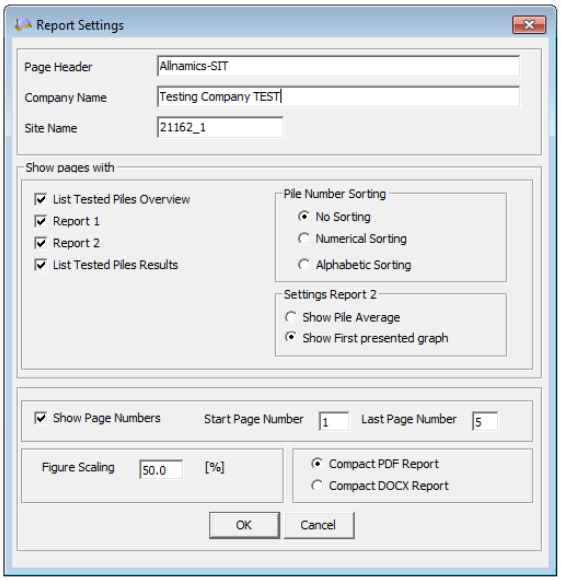
REPORTING SOFTWARE

With the report generator, signals and results can easily be presented.

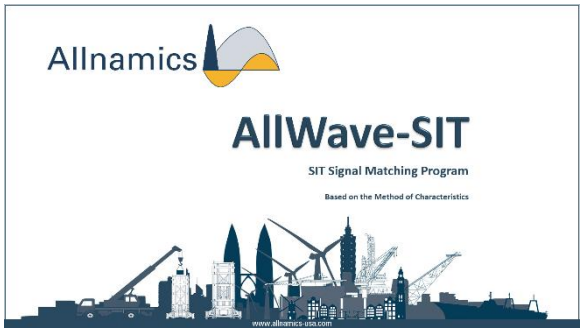
- Automatic generation of the report in PDF or MS Word file
- Selection of piles
- Page header
- Company name and logo
- Page numbering



Settings for personalising the SIT reports

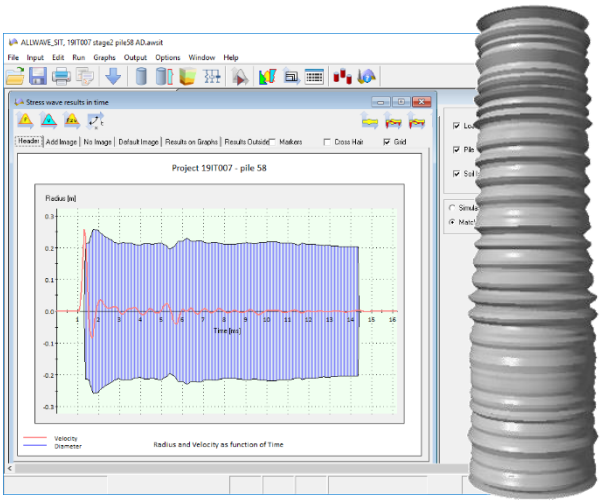
ALLWAVE-SIT FOR QUANTITATIVE INTERPRETATION

In addition to the normal qualitative interpretation, AllWave-SIT is available for Signal Matching techniques to quantify detected defects. The result of the AllWave-SIT Signal Matching process are the dimensions of the pile. In contrast to the direct calculation methods, during the Signal Matching process, soil influences on the signals are taken fully into account, by using the Site Characteristic Signal.



AllWave-SIT is the software program for stress wave signal matching analysis of SIT signals for a quantitative interpretation

AllWave is a Wave Equation Program based on the method of characteristics for one-dimensional stress waves and offers the possibility to simulate the pile and soil behaviour.
The Signal Matching process is supported by several utilities, including AutoMatching support.



Typical result of the quantitative interpretation method, using the AllWave-SIT Signal Matching procedure interpretation

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FEATURES SIT-SET

Specifications

- SIT-USB, high quality data acquisition system
- Fast and Accurate
- Sample rate 50 kHz
- 24 bit conversion
- Class IP66 housing
- Robust design
- Intelligent sensor (USID)
- In compliance with ASTM Standard D5882-16, EA Pfähle 2012, CUR-Aanbeveling 109:2013, AFNOR NF P 94-160-2 and NF P 94-160-4.
- Software program for monitoring, processing and reporting included

Software

- Software program for monitoring and signal processing
- Powerful Analysis tools
- Professional engineering reports
- Unlimited measurements per pile
- Shows averages for piles and site
- Filtering and amplification of signals
- Operates in metric SI or Imperial/US units
- Support multiple languages (English, German, Spanish, other on request)
- Voice response

Ergonomic housing of the sensor for easy pile testing

The SIT software runs on many tablets and laptops, ordinary and rugged ones.

ABOUT ALLNAMICS

Allnamics acts as an independent consultant for geotechnical engineering and piling works (including design and pile installation monitoring and supervision), provides its clients with general consultancy in foundation diagnostics as well as training and assistance in using Allnamics pile testing hardware and software (including driveability prediction analysis and signal matching).

Allnamics assists clients in trouble shooting of complex project situations. Additionally, Allnamics organizes courses and seminars to introduce clients into the theory, practice and interpretation of foundation diagnostics using its experience from world-wide case histories since 1972.

Additional information on Allnamics can be found on allnamics.com.

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