

PSI—Parallel Seismic Instrument

PSI uses the well-known Parallel Seismic method to establish the depth of existing foundations (specifically piles) where the superstructure precludes access to the pile heads.

The test requires the installation of a plastic access tube in parallel, and as close as possible, to the tested pile. The tube should be carried down to a depth exceeding the assumed pile length by a margin of 8-10 m and filled with water. In unsaturated soils the tube should be firmly grouted in the hole to achieve good coupling with the surrounding soil.

System Components:

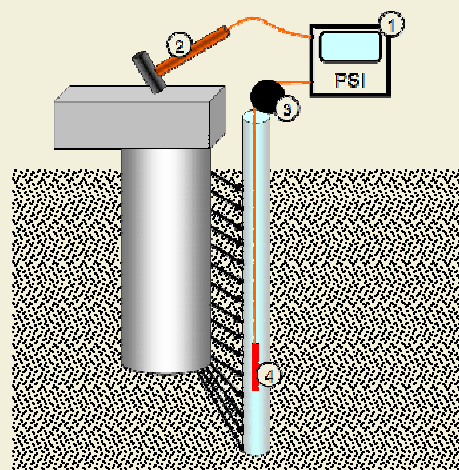
1. PSI instrument
2. Sledgehammer equipped with a trigger switch
3. Digital depth meter (Optionally wireless)
4. Hydrophone

Operation:

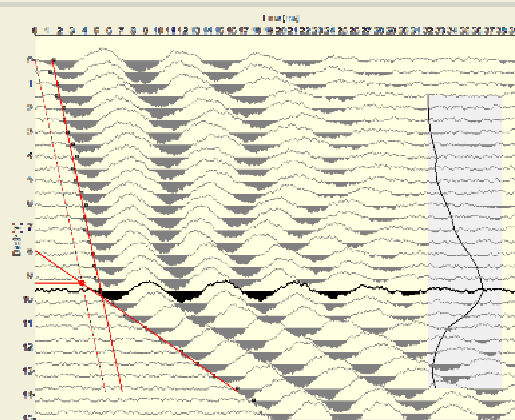
As the hydrophone is lowered in stages inside the access tube, the superstructure is hit with the hammer and the pulse arriving at the hydrophone is recorded in the PC that is connected to the instrument. When all the pulses thus collected are plotted versus the respective depths, they show a typical break in the slope at the depth where the pile tip is located.

Advantages:

- Easy to use: it is usually self-taught in less than a day. No additional expensive training is needed.
- Connects to any PC/Laptop via a standard USB port.
- Interpretation assistance and Second



System Components



Output

Technical Specifications

Physical	Housing	Rugged, Environment-proof, water-resistant housing
	Dimensions (mm)	430L x 325W x 105H (instrument only)
	Weight	2.6 kg (instrument only)
		4.2 kg (with typical computer)
	Temperature range	Operating : -25 to 60 (°C) Storage : -40 to 70 (°C)
Power	Internal	Rechargeable Lithium Ion battery More than a full day of typical use.
	External	100 ~ 240V AC operation/charging 12V DC car battery operation/charging
Standards	AFNOR NF P94-160-3	Fully meets or exceeds
Technical	Hydrophone	20Hz ~ 1kHz in stainless enclosure. 25 mm diameter
	Cables	Detachable heavy-duty polyurethane on reel.
	Sample rate	50kHz (20µs resolution)
	Gain	8 levels automatic gain control (AGC)
	Depth	24-bit counter. <0.1% error.
Performance	Pile lengths	1 m to 145 m
	Productivity	10-15 min (typical) per pile
	Storage	Unlimited
Requirements	Computer (Minimum)	Windows XP/Vista. 800x600 resolution
Output	Reporting	Arrival time vs. depth
		Pile tip depth
Wave speed in pile		
	Language	Multi-lingual report generation in MS Word format
Options	Cable reels	50m, 100m, 150m and custom made lengths

