



BATTERY ENERGY STORAGE (BESS)

Foundations for battery parks, without a concrete slab.

Screw piles carry a steel frame to which the containers are fixed directly. Less groundwork, no curing time and a schedule that stays under control.

20,000+

screw piles supplied and installed

± 50

piles per day per crew

1–2 mm

alignment of the pile heads

60–80%

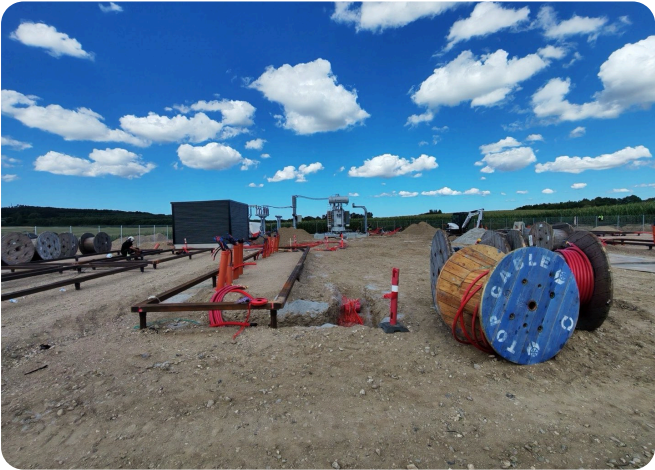
less CO₂ than concrete



Screw piles instead of a concrete slab

Battery parks need to be built fast and often sit on soft or made ground. This is how the two foundations compare on site:

	Screw piles + steel frame	Concrete slab on hardcore
Groundwork	Set-out, utility check, installation	Excavation, hardcore, formwork, reinforcement
Waiting time	None: load-bearing immediately	Concrete curing time
Weather	Installation in almost any weather	Pouring depends on the weather
Bearing capacity	Based on CPTs, measured per pile	Depends on the ground under the slab
End of life	Piles unscrewed and reused	Demolition and removal
CO ₂	60–80% less	Reference



How it works

- ✓ Screw piles into the bearing layer, with the manufacturer's capacity data to Eurocode 7
- ✓ Adjustable plates on the pile heads: alignment within 1 to 2 mm
- ✓ Steel frame welded on site or fixed with clamp connections
- ✓ Container anchored directly to the frame
- ✓ Uplift and lateral loads included in the design

From soil test to handover

01

Soil test and proposal

Foundation proposal with our manufacturer
Paalupiste based on cone penetration tests (CPT) and the load per support, for review by the designer.

02

Set-out

Pile positions set out, utilities checked.

03

Installation

Tracked rig or excavator with hydraulic drive head, ± 50 piles per day per crew.

04

Installation record

Torque and depth per pile; load test on request.

Completed BESS installations



Container frames on screw piles, Svebolle (DK)



Battery park, Cleve Hill Solar Park (UK)



Frame on piles, Cleve Hill (UK)

Photos: projects completed by the Paalupiste group, the manufacturer of our screw piles. At Cleve Hill the group installed more than 1,000 screw piles of 8 to 10 m in very soft clay in 2023.

44 t

Design study, Belgium: 20 ft container

Foundation design for a 44-tonne battery container on screw piles and a steel frame, based on site CPTs.

Why Soiltek

VCA

VCA-certified staff

Embuild

Member of the Belgian
construction federation

Buildwise

Member of the Belgian
construction research centre

Insured

Civil liability and ten-year
liability

132 kNm

Hydraulic drive heads up to 132
kNm

NL · FR · EN

Across the Benelux, also for
international developers

What we need for your quote

- ✓ Site layout and number of containers or skids
- ✓ Load per support (vertical, uplift, lateral)
- ✓ CPTs or a soil report, if available
- ✓ Target schedule and phasing
- ✓ Site access and ground conditions (made ground, rubble)
- ✓ Alignment and anchoring requirements

Discuss your BESS project

Send your site layout and loads. With our
manufacturer we prepare a foundation proposal
and a tailored quote.

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Request a quote



BESS case study