



03 / EARTH RETENTION

Sheet piles

Interlocking profiled steel sheets forming a continuous engineered retaining wall.

How the technique works

Profiled steel sheets are positioned along the wall line and installed consecutively. Each adjoining sheet engages the previous interlock to create a continuous retaining system. Use compatible lifting, driving and guide equipment for the selected section.

How the wall works

The wall resists earth and water pressures through its bending resistance, embedment and any specified anchors, walers or bracing. Its behavior depends on ground, excavation sequence, water levels, surcharge and the support-system design.

Where it applies

Temporary or permanent excavation support, selected waterfront works and engineered earth-retention applications. Check alignment, utility clearance, adjacent structures, water management and the installation method before execution.

What it offers

Thin interlocking sections can provide an efficient continuous retaining line. Reuse or extraction may be feasible for temporary works where the design and ground allow. Interlocks alone do not guarantee a watertight wall.

Four adjoining sheets - 20 ft embedment

The example installation uses four adjoining sheets with 20 ft embedment. The method plate shows positioning, interlocking, driving and the completed supported wall. Sheet width, profile, total length, steel grade and support details are selected by design.



CONSTRUCTION METHOD

Construction sequence

General procedure. Geometry and parameters follow the approved project.

01 Preparation and guides

Review geotechnical data, wall/support design, excavation stages, utilities and water levels. Establish alignment, guide frames, platform and lifting arrangements. Inspect sections and interlocks.

02 Install the first sheet

Lift and position sheet 1 within the guide system. Check line and verticality while driving to the specified level. The first sheet establishes the reference for adjoining sections.

03 Engage adjoining sheets

Install sheets 2, 3 and 4 consecutively with their interlocks engaged. Maintain alignment and verticality; monitor penetration, interlock behavior and ground response. Each illustrated sheet has 20 ft embedment.

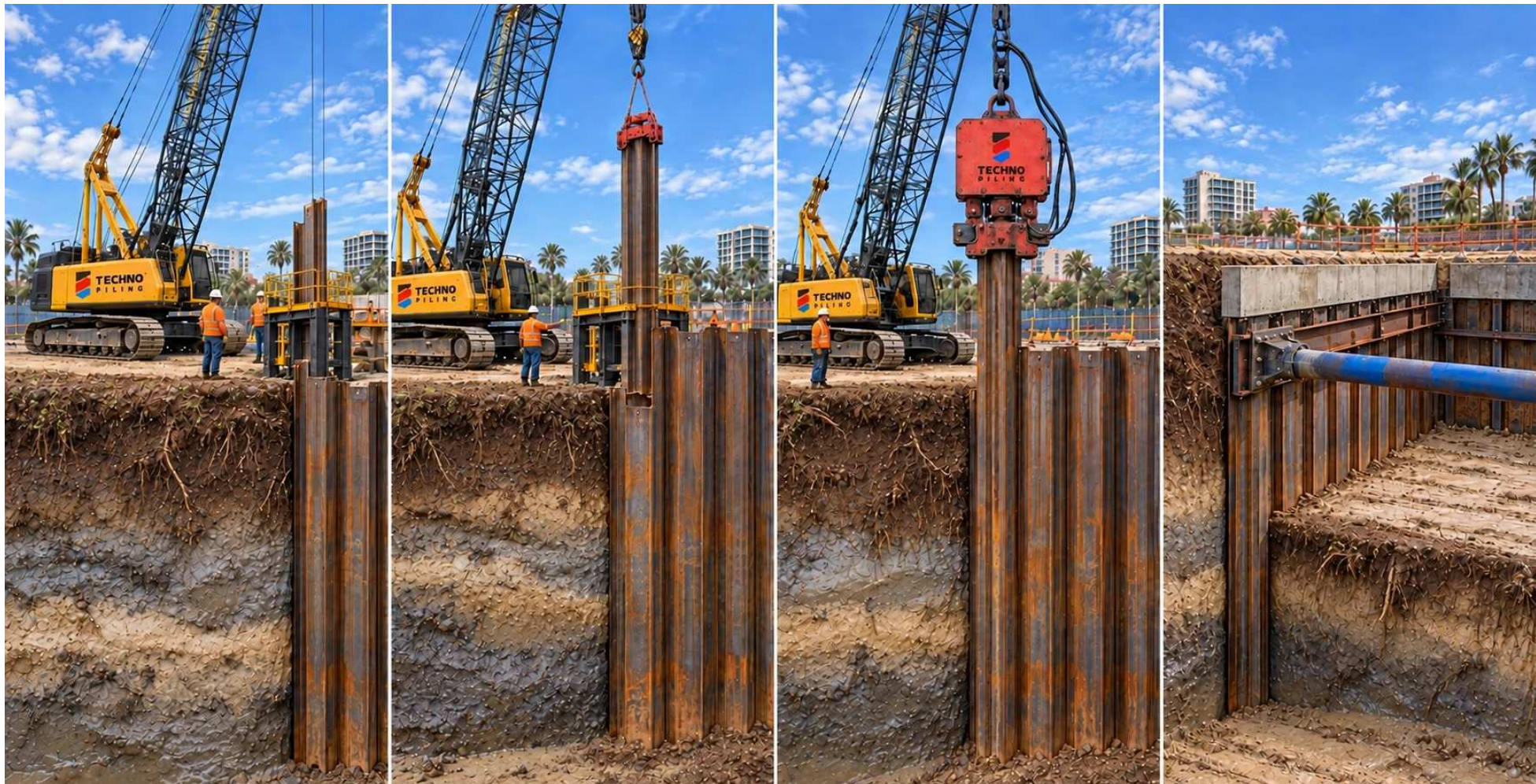
04 Supports and excavation

Install specified walers, braces or anchors at the designed stages. Coordinate excavation, support activation and water management. Do not change the excavation/support sequence without the required engineering review.

05 Survey and completion

Verify wall alignment, final levels, interlocks and support details. Maintain records of installed sheets and incidents. Plan any extraction, reuse or permanent corrosion protection under the approved design.

Sheet piles



The installation procedure follows the approved project design. Illustrated profiles do not replace the geotechnical report.



SELECTION AND SITE CONDITIONS

Application criteria

Evaluate the ground, equipment and restrictions together.

Soil and water pressures

Confirm stratigraphy, strength, groundwater, surcharge and excavation depth. Soft soils, mud, silts and sands require site-specific assessment of wall embedment, stability, deformation and water management.

Section and support selection

Specify the profiled section, bending resistance, steel grade, total length, durability and any anchors, walers or bracing. Illustrated embedment is not a standard design depth or capacity.

Obstructions and pre-drilling

Evaluate buried construction materials, utilities and unexpected installation resistance. Project-specific pre-drilling may assist installation where approved, but its effects on surrounding ground and wall resistance must be assessed.

Neighbors and water management

Review vibration, noise, adjacent structures and allowable movement. Define monitoring and groundwater-control measures. The wall, supports and excavation must be designed as a coordinated system.

Information to evaluate the work

Send location, soil report, wall plans/sections, retained heights, excavation stages, water levels, surcharges, nearby structures, support details, access and target schedule.



QUALITY AND TRACEABILITY

Installation controls

One traceable record per pile or test, from setting out to acceptance.

Materials and setting out

Check section identification, condition, length and interlocks. Verify guide frames, alignment, platform and lifting procedures before installation.

Driving and interlocks

Record sheet ID, installed level, alignment, penetration and driving observations. Inspect adjoining interlock engagement and document refusal, damage, deviations or corrective work.

Support-system installation

Verify walers, bracing, anchors and their connection details at the specified excavation stages. Record inspections and any engineer-approved changes.

Survey and monitoring

Survey wall line and elevations. Monitor ground and adjacent structures where specified. Interpret movement and water observations against the defined trigger/action criteria.

Safety and closure

Maintain stable working areas, utility clearances and lifting/drive exclusion zones. Control open edges and excavation access. Deliver surveys, installation records, monitoring and support-system inspection results.

Discuss your project

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Wall sections, embedment, supports, durability and acceptance follow the approved project design.