



04 / DEEP FOUNDATIONS

Auger cast piles (CFA)

Continuous-flight auger foundations placed through the hollow stem during withdrawal.

How the technique works

The continuous-flight auger drills to the design depth. During withdrawal, grout or concrete is pumped through the hollow stem, progressively filling the released space. The specified reinforcement is then inserted into the fresh material.

What CFA means

CFA stands for Continuous Flight Auger. In a conventional configuration, soil held between the flights helps support the bore during drilling. Excavated soil requires handling and disposal.

Applications and benefits

Building foundations, industrial facilities and infrastructure; pile walls where included in the design. Selection depends on soil, loads, allowable settlements and surroundings. Compared with impact driving, the method can reduce vibration; compatible conditions may allow installation without temporary casing or drilling slurry.

Withdrawal and filling stay coordinated

The method does not consist of removing the entire auger and subsequently filling an open hole. Pumping must accompany controlled withdrawal.



CONSTRUCTION METHOD

Construction sequence

General procedure. Geometry and parameters follow the approved project.

01 Preparation and setting out

Review geotechnical information, drawings, utilities and sequence. Verify the working platform, mast position, placement supply, pump, reinforcement and lifting arrangements.

02 Continuous-flight auger drilling

Advance by rotation to the specified depth. Coordinate penetration and rotation to limit unnecessary soil extraction. Monitor depth, alignment and ground response.

03 Placement during withdrawal

Pump through the hollow stem and coordinate withdrawal, flow and pressure. Record volume and its distribution by depth where available. Apply the contingency procedure when anomalies occur.

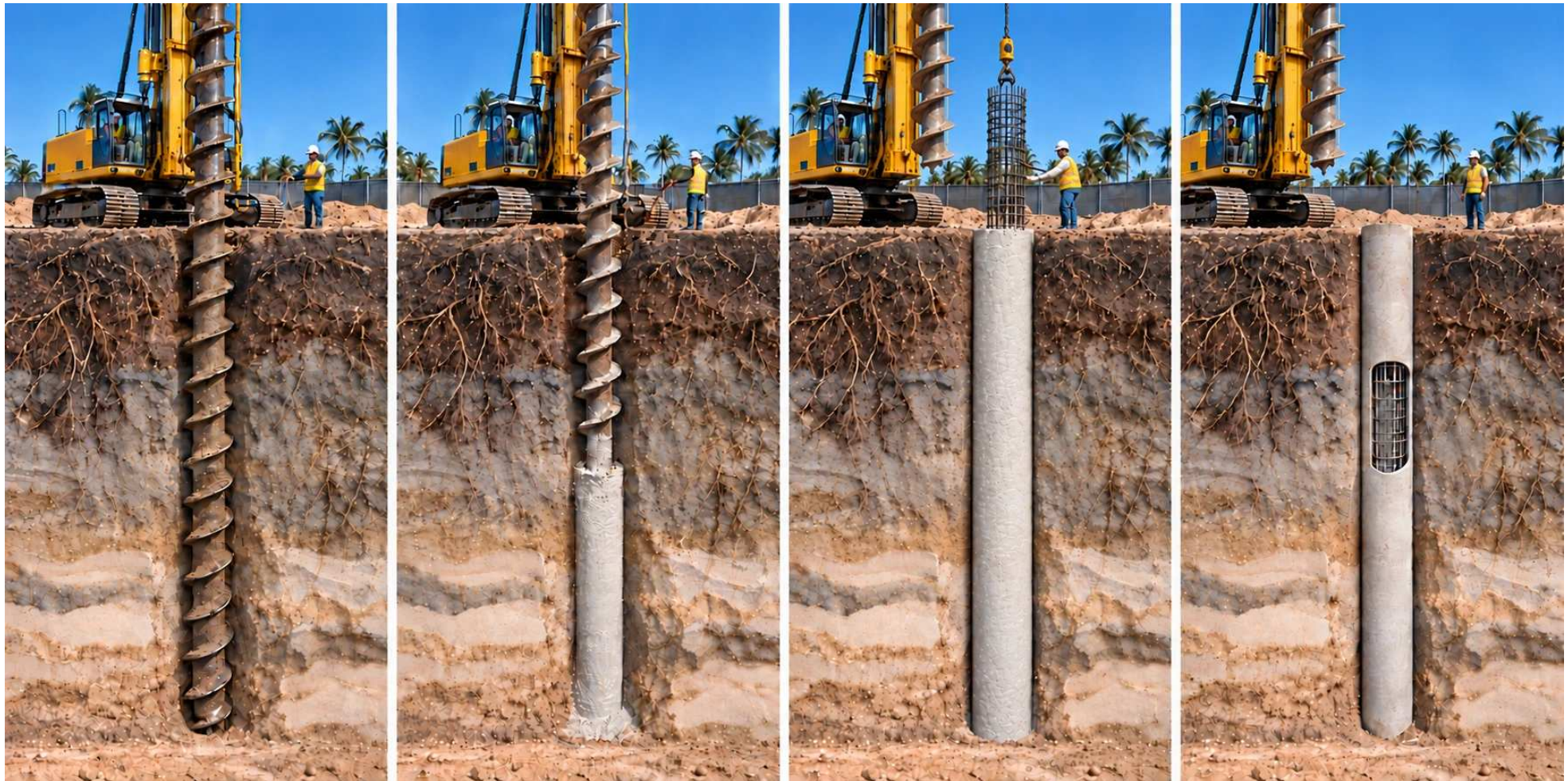
04 Reinforcement placement

Insert the specified cage while grout or concrete retains the necessary workability. Verify rigidity, length, spacers, cover and final elevation. Plan any mechanical insertion assistance.

05 Completion and traceability

Identify and protect the pile. Document installation and incidents; control sequence around adjacent piles. Trim the head to sound material as specified.

Auger cast piles (CFA)



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.

Actual ground and drilling response

Review soft soils, wet silts, mud, sands, groundwater and buried obstructions in the project investigation. Check equipment capability and soils sensitive to unnecessary extraction. Unexpected resistance alone does not confirm the intended bearing stratum.

Groundwater

The technique may be feasible in suitable ground below groundwater. Water alone does not establish suitability: assess permeability, stability, stratigraphy and the installation procedure.

Reinforcement and logistics

Diameter and depth depend on design, ground and equipment. Resolve long-cage insertion in advance, including headroom, lifting methods and the workability window.

Difference from displacement piling

Conventional CFA holds and extracts soil between the flights. A displacement tool moves soil laterally; selection and control requirements are different.

Information for your project

Location, geotechnical report, plans and sections, loads, preliminary dimensions, groundwater, access, headroom and schedule.



QUALITY AND TRACEABILITY

Installation controls

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

Before installation

Define acceptance, contingency and inspection procedures. Verify materials, platform, tool and pumping. Check calibration and coverage of available sensors.

Drilling and placement

Record depth, alignment, penetration, rotation, extraction, pressure, volume and times. Line pressure requires interpretation before relating it to conditions at the tip.

Volume and continuity

Compare placed and theoretical volume and distribution by depth where available. Total overconsumption alone does not demonstrate shaft continuity.

Materials and reinforcement

Control delivery, consistency, strength, times and samples. Check workability for pumping and insertion, and record the cage level. Do not add water informally.

Testing, safety and closure

Preserve records, incidents and results. Integrity tests do not replace load tests. Control platform stability, edges, utilities, exclusion zones, auger cleaning, pumping lines, lifting and vehicle movement.

Discuss your project

WhatsApp / phone +1 954 669-4169
estimates@technopiling.com · Florida, USA

Applicable project references: ASTM D1143/D1143M (compression), D3689/D3689M (tension), D3966/D3966M (lateral).