

Soil Nailing & Rock Anchoring for excavations and slopes

Grouted steel nails and tensioned anchors stabilise excavation faces, slopes and retaining walls.

CAN BE CONSIDERED WHERE

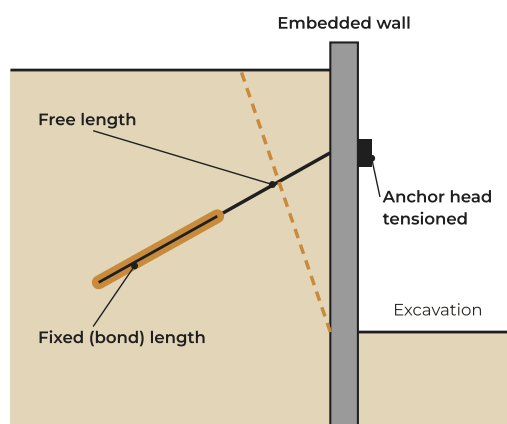
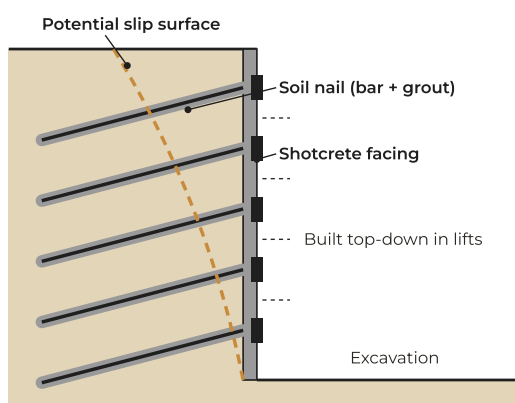
- Temporary or permanent excavation support.
- Slope stabilisation.
- Rock slope and rock face stabilisation.
- Tie-back anchors for pile walls; resistance to uplift.

LIMITATIONS

- Soil nailing needs ground that stands unsupported for a short time at each lift.
- Below the water table, dewatering is usually needed.
- Anchors may extend beyond the site boundary and need permission.

HOW IT WORKS

For soil nailing, the face is excavated in short lifts. Holes are drilled, steel bars installed and grouted, and the face is covered with reinforced shotcrete before the next lift.



Schematic, not to scale.

DESIGN INPUTS

- Site investigation and groundwater.
- Excavation or slope geometry and surcharges.
- Nail or anchor spacing, length, inclination and bond.
- Corrosion protection and design life.
- Facing design and drainage behind the facing.

EXECUTION CONTROLS

- Excavation lift heights.
- Drilling records.
- Bar or tendon installation with centralisers.
- Grout mix and volume.
- Anchor stressing records.

VERIFICATION AND ACCEPTANCE

Design intent: What is required

Stability and movement criteria agreed with the consultant.

Production control: What was done

Installation and grouting records for every nail or anchor.

Acceptance: What was proven

Sacrificial pull-out tests and proof tests on nails; suitability and acceptance tests on anchors; movement monitoring.

DELIVERABLES

Method statement and risk assessment · Layout and section drawings · Installation records · Stressing and test records · Monitoring reports