



drilling & geotechnical

SOIL NAILING AND ROCK ANCHOR



What are Soil Nailing and Rock Anchor?

Soil nailing and rock anchor are essential ground stabilization techniques used to ensure the safety and reliability of slopes, excavations, and retaining structures. Both methods involve the insertion of reinforcing elements into the ground to improve its structural integrity and prevent failures such as landslides or wall collapses.

Soil nailing is ideal for loose or unstable soil. It's commonly used to support road cuts, building excavations, and to upgrade old retaining walls. While rock anchor works best in solid ground or rock and provides strong, active support—perfect for tunnels, foundations, and heavy structures.

Whether you're dealing with soil or rock, these solutions offer safe, long-lasting, and cost-effective results for your construction projects.

Applications

- Temporary and permanent retention of excavated soil.
- Stabilisation of tunnel walls.
- Slope stabilisation.
- Repair of retaining walls.
- Foundation strengthening.

Benefits

- Can be adapted to different ground conditions (clays, soil, weathered rock, hard rock).
- More cost-effective than concrete retaining structures.
- Quick installation.
- Preserves existing ground profile with less environmental impact.
- Can be integrated with shotcrete, wire mesh, or geomat facing for erosion control.

Additional Information

- Additional scaffolding and climbing equipment can be added for working at heights
- The drainage system can be applied to reduce water pressure and water saturation on reinforced soil slopes
- Corrosion protection can be applied on nails using epoxy coating (cold galvanising) or hot dip galvanising
- The common grout strength is 210 – 280 kg/cm² in 28 days. Additional additives or changes of mixtures can be implemented for more strength

Equipment

Our compact hydraulic drilling technology enables precise soil nailing or rock anchor installation in restricted access areas, delivering optimal results even in the most challenging work environments.





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Why Choose Geonusa Utama?

- 15+ years of experience in geotechnical solutions
- Proven track record in infrastructure and private sector
- Committed to safety and quality
- Experienced team and in-house equipment



Soil nailing installation on a cliff at Nusa Ceningan, Bali, Indonesia (2017)

Our Projects



Soil nailing installation on a retaining wall at Kariangau, East Kalimantan, Indonesia (2024)



Soil nailing installation combined with shotcrete installation at Karebbe KM 38+600 project at Sorowako, South Sulawesi, Indonesia (2016)



Soil nailing installation with geomat vegetation installation at Puncak, West Java, Indonesia (2019)

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