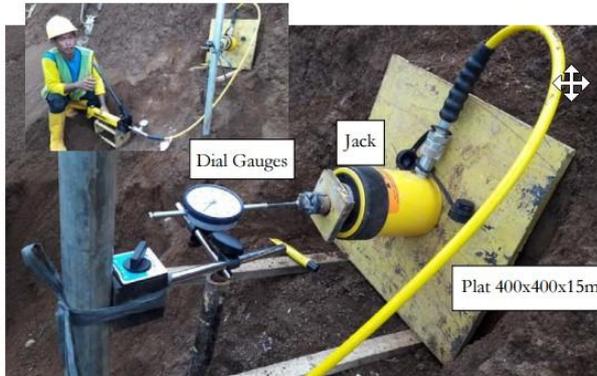


NAIL PULL OUT TEST



What is Nail Pull Out Test?

Nail pull-out test is a critical field test in soil nailing works, used to evaluate the load-bearing capacity of nails installed into the ground.

The test is performed by applying a controlled axial load to the nail using hydraulic equipment, and measuring the corresponding movement and resistance. This helps determine whether the installed nails can withstand the designed loads, ensuring both stability and safety of the supported structure.

By incorporating pull-out test into soil nailing or rock anchor projects, this ensures structural safety, improve design accuracy, and reduce the risk of failure due to unexpected ground behavior.

Types of Nail Pull Out Test

- **Verification Test:** The test is conducted at the early stage of a project on designated nails that are not part of the permanent structure. The nail is loaded incrementally until it reaches failure, allowing engineers to understand the maximum load capacity and load-displacement behavior of the soil-nail system under field conditions.
- **Proof Test:** The test is carried out after nail installation as part of the

quality control process to ensure each nail meets the required load capacity as per the design specifications. The nail is loaded up to a predefined level without causing failure, and its performance is closely monitored.

Equipment

The test is performed by using hydraulic equipment with the capacity of 100 tons



Nail Pull Out Test Equipment



Nail Pull Out Test on Site



drilling & geotechnical

NAIL PULL OUT TEST

Typical Sequence

1. Nail Pull Out Equipment Setup
2. Pull the nail until it reaches failure if it is a verification test
3. During proof test, monitor for a few minutes and write down for any movement



Nail Pull Out Test on a Cliff

Our Projects



Lolak, Bolaang Mongondow, North Sulawesi, Indonesia (2019)



Cisumdawu Toll, Sumedang, West Java, Indonesia (2018)

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

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