ROCKFALL PROTECTION

What is Rockfall Protection?

Rockfall protection provides a reliable solution for mitigating rockfall hazards on steep, rocky slopes. This technique enhances safety in high-risk areas. The system works by installing high-tensile steel mesh over the slope surface.

There are two protection techniques that can be applied: active and passive methods. In the active method, the mesh holds the rocks in place to prevent them from falling by applying additional reinforcement through rock anchors; this method does not require routine maintenance. In the passive method, rocks are allowed to fall behind the mesh, thereby securing the protected area, though it requires periodic maintenance to clear the fallen debris.

The steel mesh is flexible and capable of adapting to existing field contours, eliminating the need for slope surface reshaping which can be costly or impractical. This steel mesh system is ideal for locations with unstable rock formations (including highways, construction zones, and mountainous regions) providing long-term protection with efficient performance.

Applications

- Protect highways and railways located near cliffs or rocky slopes from falling debris and boulders, reducing the risk of accidents and blockages.
- Safeguard residential, commercial, and industrial areas located near potentially unstable slopes.
- Provide safety for workers and equipment operating near exposed rock faces and maintain stability during excavation or construction on sites.
- Stabilize surrounding slopes to prevent rockfalls that could damage facilities or disrupt operations.

Benefits

- Minimum environmental impact.
- Durable, highly resistant to weather, corrosion, and mechanical damage.
- Adaptive to slope angle and rock formations.
- Quick installation.
- Enhanced safety.
- Cost-effective.

Technical Specification

- Galvanized or PVC-coated steel wire mesh, double-twisted hexagonal or welded type.
- Steel anchors/rock bolts, spacing 0,5 m – 3 m (depending on slope).
- Top-down installation is preferred, but bottom-up may be considered depending on the site conditions.
- Steel bars are used to secure the surface and top of the steel grid, ensuring it conforms to the slope's contours during installation
- Additional slope reinforcement by using soil nailing/rock anchor/driven

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nail may be implemented depending on the overall slope conditions

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 an in-house equipment

Our Projects

Maros, South Sulawesi, Indonesia (2017)

Naringgul, West Java, Indonesia (2018)

Maninjau, West Sumatra, Indonesia (2018)

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