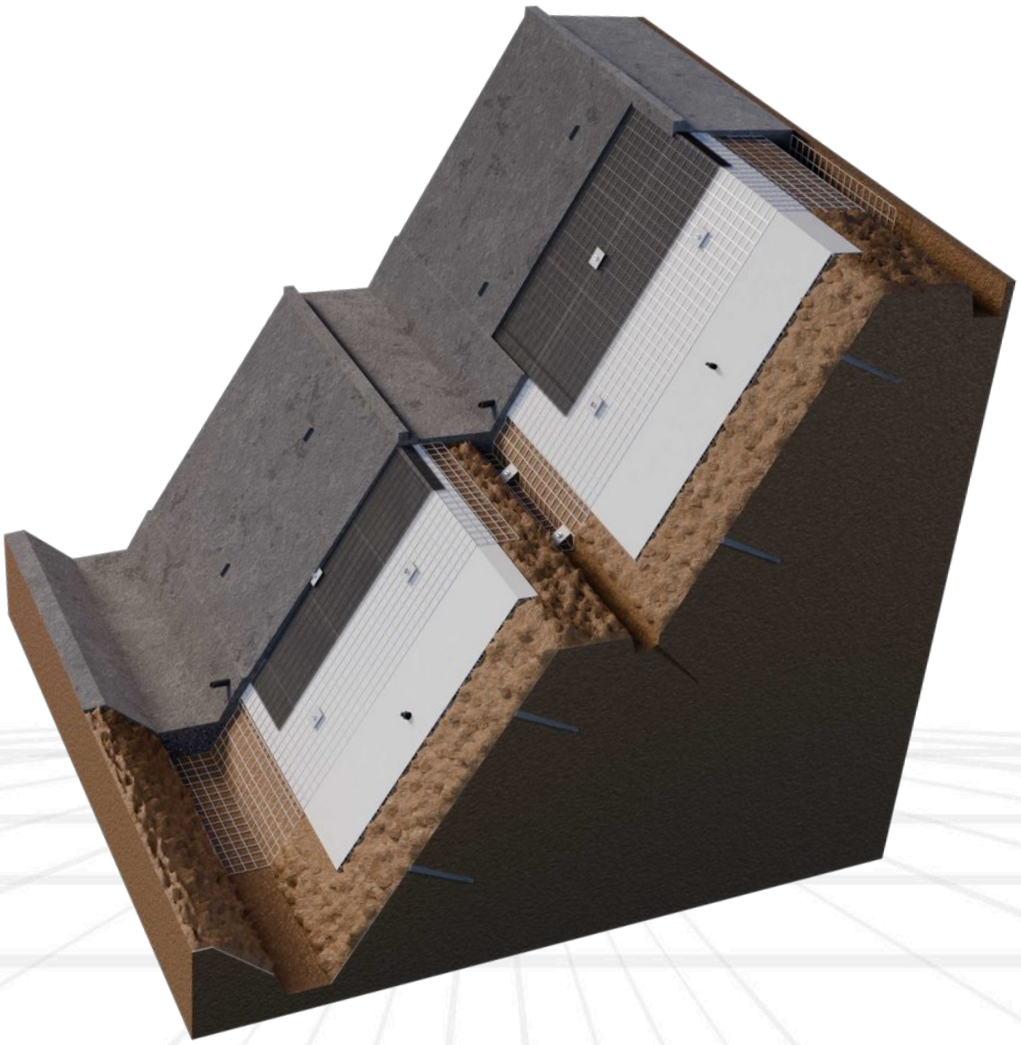
CONSTRUCK SLOPE EXTREME

Next-generation
SPaaP® for Weathered Rock Slope



CST-SLEX-BRO-00011
www.construck.me

CONSTRUCK SYSTEMS & TECHNOLOGY
Research and Development | Design | Manufacturing | Geotechnics



Engineered Stability for Difficult Rock Slopes. ConstruckSlope Extreme delivers reinforced performance where slopes show weathering or shallow movement.

ConstruckSlope Extreme is the next-generation slope protection system designed for fractured and unstable mountain terrains. It goes beyond traditional erosion control by integrating deep anchorage, high-strength geosynthetics, and multi-layer drainage to manage localized instability and shear movement. This system minimizes carbon emissions, reduces resource consumption, and accelerates installation—making it the most reliable and eco-conscious solution for challenging geological conditions.

How the system works

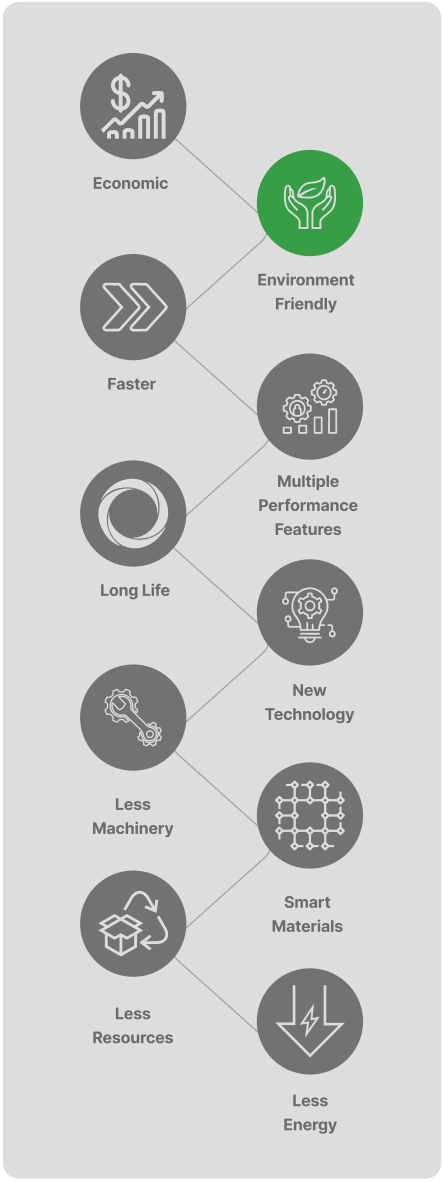
ConstruckSlope Extreme is a robust composite system engineered specifically for weathered rock and mixed geological formations. It brings together anchored reinforcement, high-capacity geogrid, a 3D drainage layer, a 3D erosion control mat, and a weatherproof cementitious coating — each contributing a defined structural or hydraulic function. The drainage layer rapidly removes seepage along the rock interface, reducing pore pressure and preventing the softening and delamination typical of weathered rock. The high-strength geogrid interlocks with surface irregularities, providing tensile resistance and improving shear stability across fractured or laminated zones.
Surface degradation is controlled through a 3D erosion mat, which forms a stable substrate for the cementitious weatherproof plaster, protecting the system from UV exposure, rainwater runoff, and ongoing rock weathering. The entire system is securely anchored at the top and bottom, and strategically placed rock bolts and tie rods provide restraint across minor shear planes. On benched or stepped slopes, the bench is integrated into the system, where the concrete screed functions as a berm liner and a load-transfer element, assisting the geogrid in redistributing forces away from weaker surface layers into more competent zones of the slope.

SPaaP

SPaaP ® , Slope Protection as a Product, is the revolutionary new approach to protecting slopes. Construck Systems developed, tested and launched the world's first SPaaP ®, ConstruckSlope - a comprehensive line of SPaaPs covering all types of slope-protection requirements. It was a unique challenge that was successfully solved by Construck Systems. By changing slope protection method from a loose collection of services shared between contractors and resource-intensive methods lacking required QA/QC controls into a pre-designed, in-house, in-slope pre-tested, easy to use, and locally installable product, Construck transformed the slope protection industry to meet the sustainability and performance standards for the future.

SPaaPs have undergone a decade of testing in real world conditions before being launched as an active product. Therefore, Construck, being the pioneer of SPaaP®, is se ing the performance benchmarks and leading the industry.

Why use ConstruckSlope Extreme





Completed ConstruckSlope Extreme

Places of Use

- Mountain slopes with fractured or weathered rock
- Cut slopes requiring localized stabilization
- Steep embankments adjacent to critical infrastructure

Models

- ConstruckSlope Extreme

Components

- ConstruckGrid HS
- ConstruckDrain
- Construck3DMat
- ConstruckAnchor RockBolt
- ConstruckScreed



Typical Geological formations

Weathered rock substrate with local stability issues



Laminated rock with surface peeling

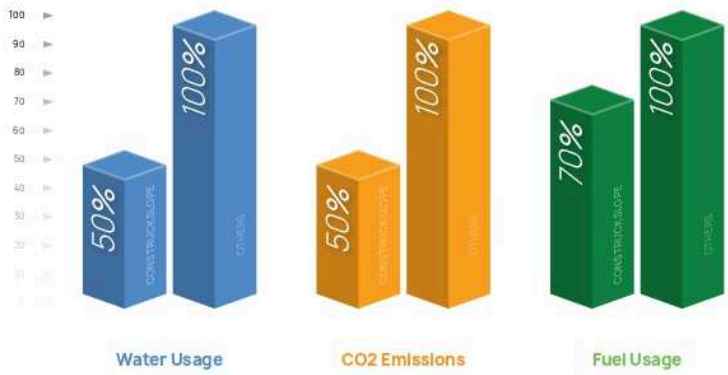


Saving the environment

ConstruckSlope Extreme is among the most sustainable SPaaPs for weathered-rock slope protection. It is also more sustainable than any other similar technically compliant alternatives, providing more protection and performance than other traditional methods. It is not surprising since we use minimal amounts of concrete, water and steel compared to available methods.

Advantages of the system

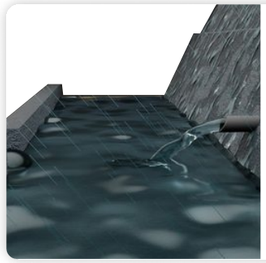
- Precision-placed rock bolts and anchors that extend deep into stable subsurface layers creating active restraint.
- Tensile strength provides stability features
- A geogrid layer provides additional stability to the slope compared to equivalent steel mesh or other systems.
- Adaptable anchoring at top and bott om of the slope, which helps in transferring local instability forces to the top and bo ttom of the slope.
- Geosynthetic-based systems for enhanced long life, sometimes up to 120 years*
- Demonstrable technical properties of each component for full compliance with performance requirements
- Minimal use of concrete elements, energy and water, thereby creating environmentally friendly solutions
- Up to 10 times faster completion compared to traditional methods
- One-stop design, manufacture, installation, and warranty support helping to create reliable partnerships





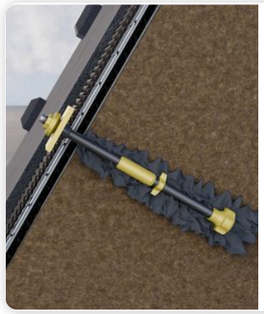
Completed ConstruckSlope Extreme

More than just Erosion Control – A SPaaP Specialty, Fully Loaded with Engineering Features



Targeted Water Diversion

ConstruckBerm acts as the barrier against water ingress onto the berm and with an upstand and inclined plane, it acts as a water channel diverting water to the main drainage system.



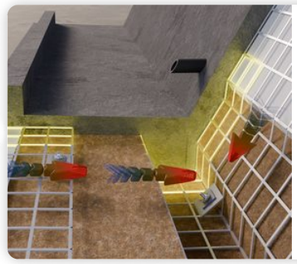
Deep Stability with Rock Bolts and Anchors

Rock bolts and anchors form the structural backbone of our anchored systems—transferring loads deep into stable ground to counteract slope movement. Each system is engineered for site-specific forces, ensuring long-term slope stability, resistance to deep-seated failure, and enhanced safety in challenging geologies.



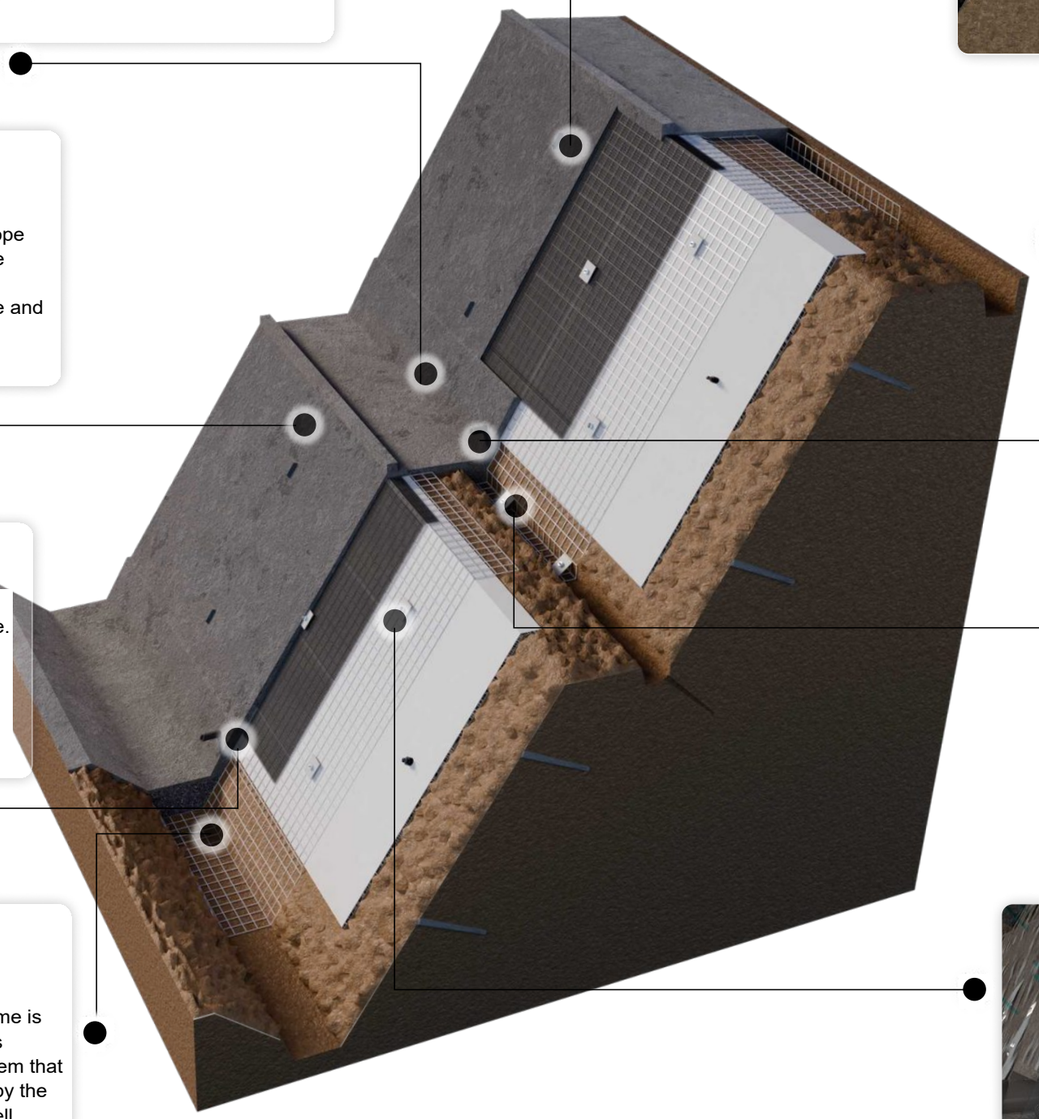
UV Protection

As geosynthetic products require protection from sunlight, ConstruckSlope Extreme is UV protected with a unique dual-purpose plaster coating which protects the system from UV exposure and forms a water barrier.



Interlocked Internal Stability

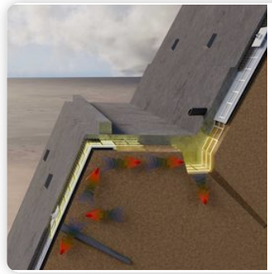
ConstruckBerm designed as part of the system allows for interlocking of the geogrid and hence transferring the load from the slope to the concrete element. The shearlock in Construckberm transfers the same load back to the stable areas of the mountain slope directed away.





Unmatched Drain Capability

Built-in drainage removes water more efficiently than any other system available. We enable the removal of all seepage water by efficiently removing it through a drainage element that provides primary protection against slope instability. This allows for negligible pore water pressure.



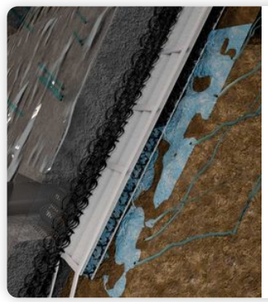
Grid Force Movement

The high-strength geogrid forms a reinforced tension plane that intercepts shear movement within weathered rock layers. Anchored securely to competent zones, it redirects internal forces, minimizes displacement, and stabilizes the slope mass—delivering enhanced structural reliability even under shifting ground conditions.



Bottom Anchor and Scour protection

No part of the ConstruckSlope Extreme is left without a proper termination. This includes the footing of the slope system that is anchored down and held in place by the weight of the concrete and placed well below the water flow level.



Internal and External Erosion Control

External erosion is prevented by a weatherproof plaster bonded to a 3D filament layer, resisting peel-off. Internal erosion is controlled by geosynthetics that filter water while retaining soil fines—ensuring zero loss of material from both surface runoff and internal flow.





Warranty: On select applications, ConstruckSlope Extreme comes with an industry-first and only 10-year rectifiable warranty*

Performance Requirements: ConstruckSlope Extreme is engineered to meet stringent performance requirements, delivering superior stability and protection for slopes of varying conditions. All components undergo rigorous testing to ensure they meet or exceed industry standards for safety, durability, and performance.

Declaration of Performance: Our systems have been tested for the measure of ultimate performance in both real-world and laboratory conditions around the world. Large-scale testing has been conducted to understand the actual performance on site using state-of-the-art testing equipment and simulated conditions exceeding the real-world conditions to give a higher degree of safety and ultimate performance.

More details on the Places of Use for ConstruckSlope Extreme



Weathered Rock Cut Slopes with Local Failures: Reinforces and stabilizes deteriorating slopes, reducing erosion and securing unstable sections to underlying rock.



Marginal Slopes with Combined Drainage and Stability Concerns: Used in sites where minor instability is exacerbated by trapped water or poor drainage.



Fractured or Jointed Rockfaces with Shallow Slippage: Provides dependable control of shallow movement while maintaining long-term slope performance.



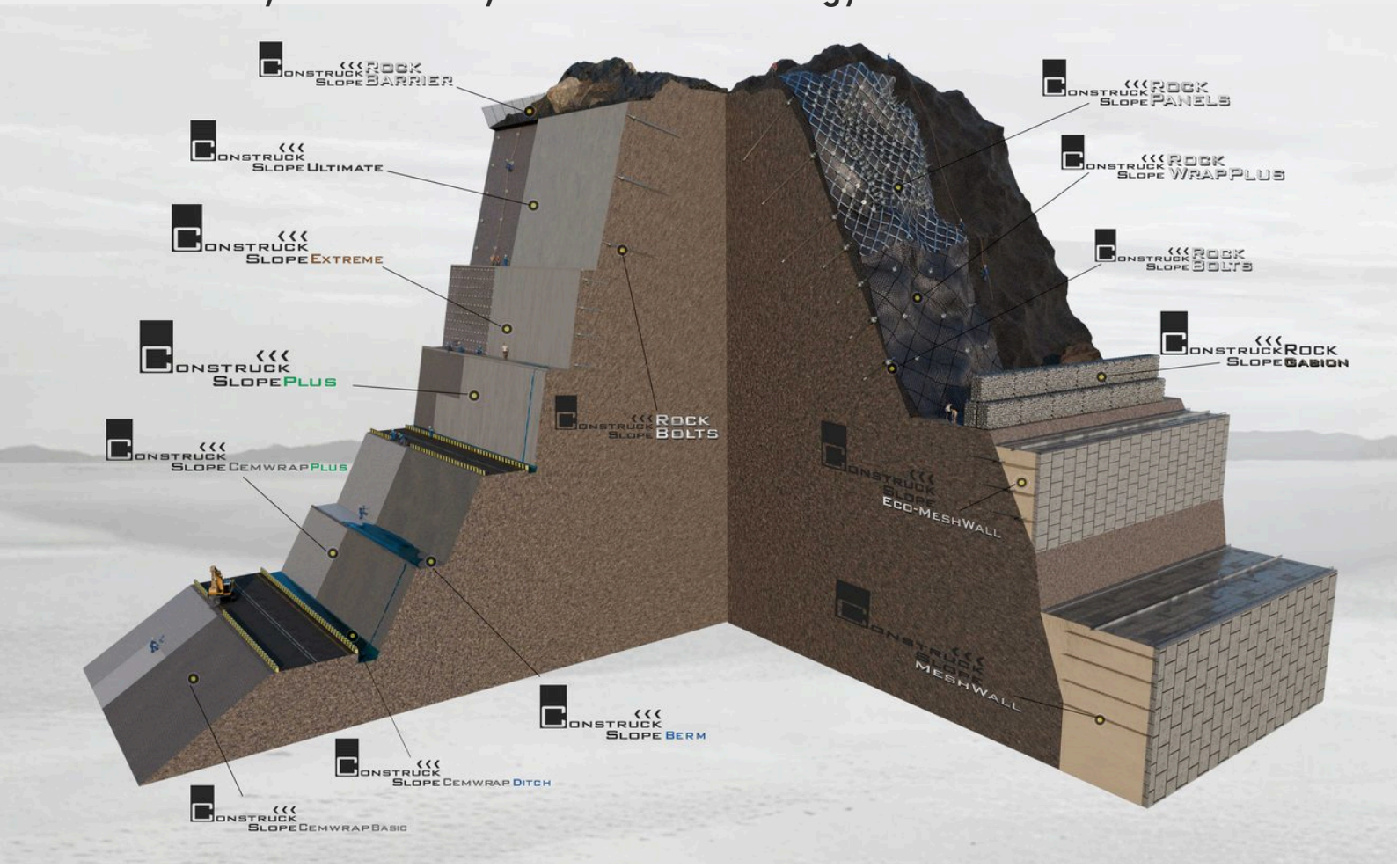
Infrastructure-Adjacent Cut Slopes: Suitable for steep roadside or development cuttings showing signs of surface erosion, tension cracks, or drainage-related instability.







The Widest Range of SPaaP® in the World, Powered by Construck Systems and Technology.



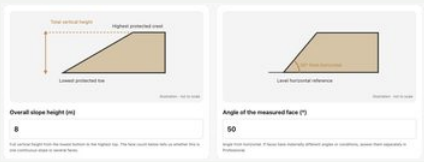
Digital support

Better decisions. A stronger project.

Explore the options, strengthen the technical basis and connect the people, information and delivery behind your Construck system.

Construck Calc

Understand the ground.
Build the technical case.



Actual Quick Check interface / sample geometry.

Quick Check
A free first step into relevant systems, preliminary quantities and indicative cost.

Professional
Bring surveys, ground conditions and existing studies into a project-specific assessment.

A further stability study
A project-specific stability study is included for each slope we take forward for protection.

calc.construck.me

ProjectSuite

One connected platform.
Support from start to finish.



Actual development workspace / sample records.

Manufacturer expertise, local support
Connect technical teams and authorised local partners around the selected Construck system.

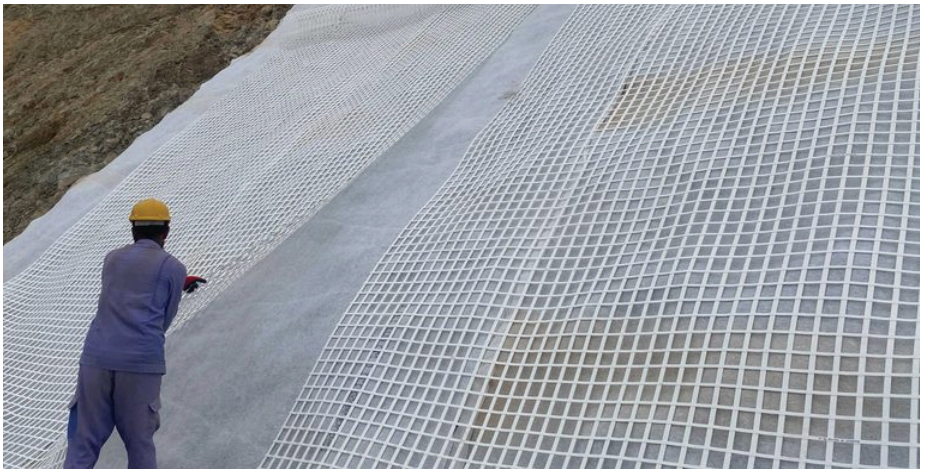
Supply and construction, coordinated
Keep technical preparation, material supply and installation quality in the same workflow.

Sustainability and handover
Relate environmental estimates to project quantities and retain useful information for the asset.

construck.me/project-suite

Quick Check is preliminary guidance. Professional assessment and support follow the agreed scope and required approvals.

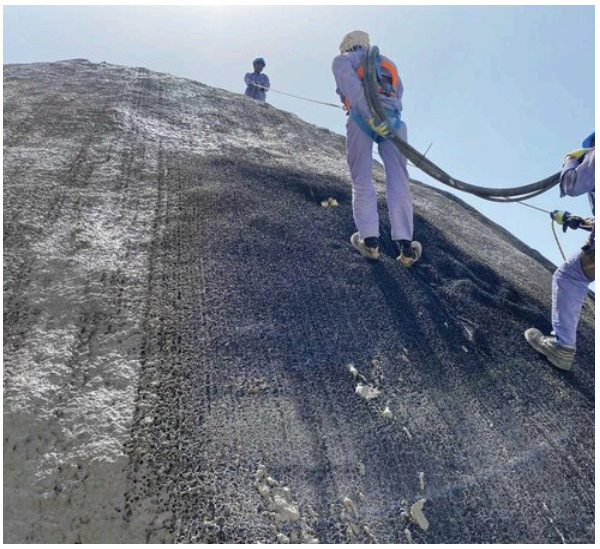












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