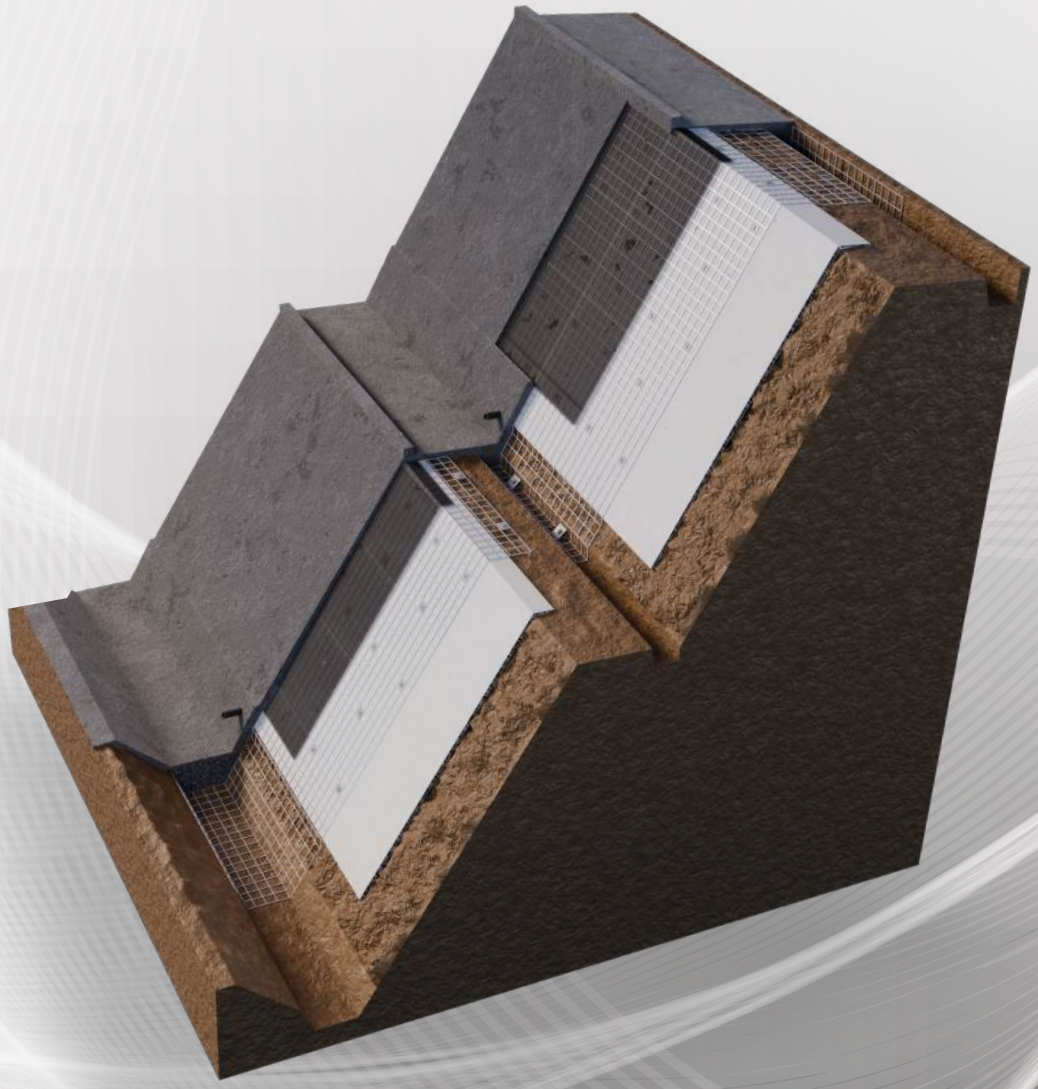
CONSTRUCK
SLOPEPLUS

The World's First
SPaaP® for Non-Vegetative Mountain Cut Slopes.



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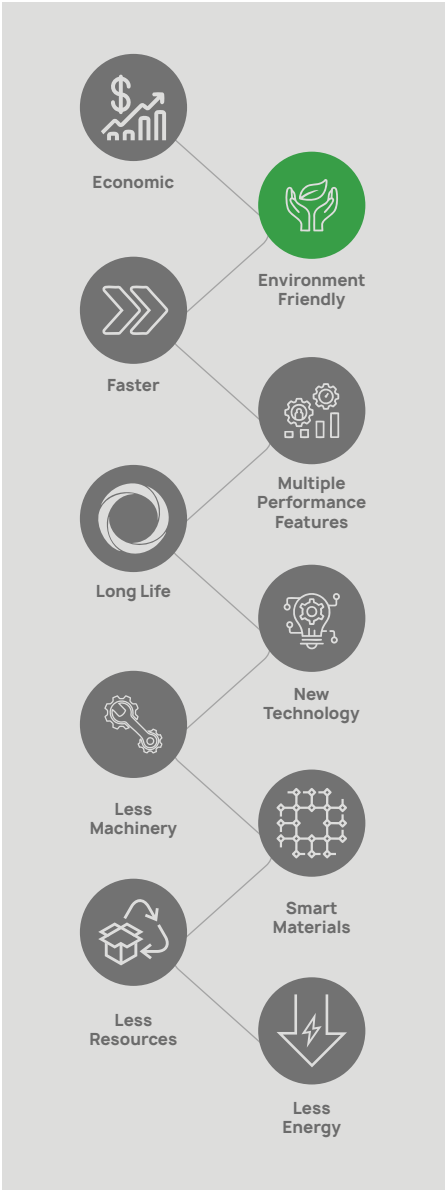
CONSTRUCK
SYSTEMS &
TECHNOLOGY

Research & Development | Design | Manufacturing | Geotechnics

ConstruckSlope Plus is the world's first SPaaP® for protecting non-vegetative cut slope mountains that's both sustainable and long lasting. ConstruckSlope Plus is one of the products from the ConstruckSlope line of products.

ConstruckSlope Plus is the first complete geosynthetic-based erosion control system for non-vegetative mountain slopes to protect the slope from rain and other natural forces induced erosion. It is unique in its ability to provide additional features beyond the traditional erosion control performance. Apart from its engineering features providing various protection elements to the slope, ConstruckSlope Plus is the first and truly sustainable erosion control system in its class, providing great savings on carbon emissions and time consumption

Why use ConstruckSlope Plus



How the system works?

ConstruckSlope Plus is an engineering marvel that combines geosynthetics and concrete to work together complementing each other. The geosynthetic elements in the system, namely the very high strength geogrid and the in-built drainage element, provides the tensile and pore water reduction features. The filtration element provided by the geosynthetics prevents any internal erosion of fines, while external erosion is stopped by a combination of erosion control mat covered with special weatherproof plaster that protects the whole system from UV rays and rainwater runoff. Additionally, the system is anchored at the top and bottom with sustainable fiber concrete. In places where the mountain is benched, the bench becomes part of the system where the fiber concrete screed acts as the berm liner, shear locked anchor and interlocked geogrid anchor.

SPaaP

SPaaP® , Slope Protection as a Product, is the revolutionary new approach in protecting slopes. Construck Systems developed, tested and launched the world's first SPaaP®, ConstruckSlope - a comprehensive line of SPaaPs covering all kinds of slope protection requirement. 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 resources intensive methods without required QA/QC control 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 setting the performance benchmarks and leading the industry.

Aerial view of completed ConstruckSlope Plus

Places of Use

- Slopes cut on Mountains for Geometric stability devoid of any local stability issues
- Steep and long embankment slopes

Models

- ConstruckSlope Plus 400
- ConstruckSlope Plus 200

Components

- ConstruckGrid HS
- ConstruckDrain
- ConstruckMat
- ConstruckRod
- ConstruckScreed

Typical Geological formations

Loose to Dense Conglomerate soil.

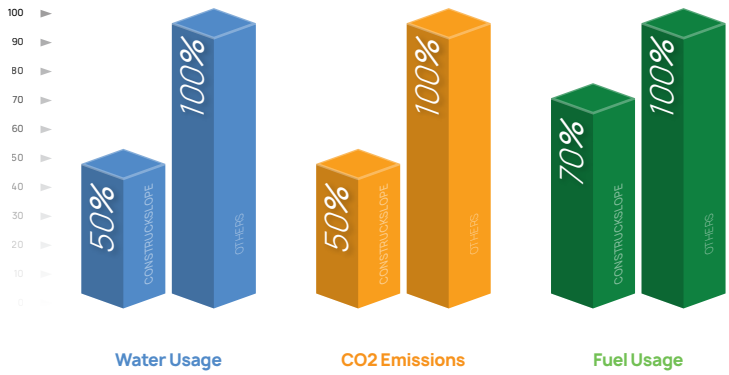
Laterite/Clayey soil

Saving the environment

ConstruckSlope Plus is the most sustainable SPaaP on the planet for Non-Vegetative Mountain Cut Slope protection. It is also more sustainable than any other similar technically compliant use cases, providing more protection and performance than other traditional methods. It is not surprising since we use a miniscule of concrete element, water and steel compared to available methods.

Advantages of the system

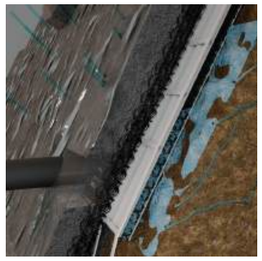
- Tensile Strength provides stability features
- Geogrid layer to provide additional stability to the slope compared to equivalent steel mesh or other systems.
- Adaptable anchoring at top and bottom of the slope, which helps in transferring local instability forces to the top and bottom of the slope.
- Geosynthetic-based systems for enhanced long life, sometimes up to 120 years*
- Demonstrable technical properties of each component for full compliance with performance requirement
- Least usage of concrete elements, energy and water, thereby creating Environment-friendly Solutions
- Up to 10 times faster completion compared to traditional methods
- One-stop design, manufacture, installation, and warranty support helping to create reliable partnership



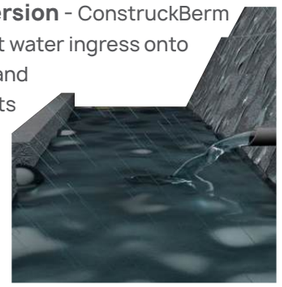
Aerial view of completed ConstruckSlope Plus

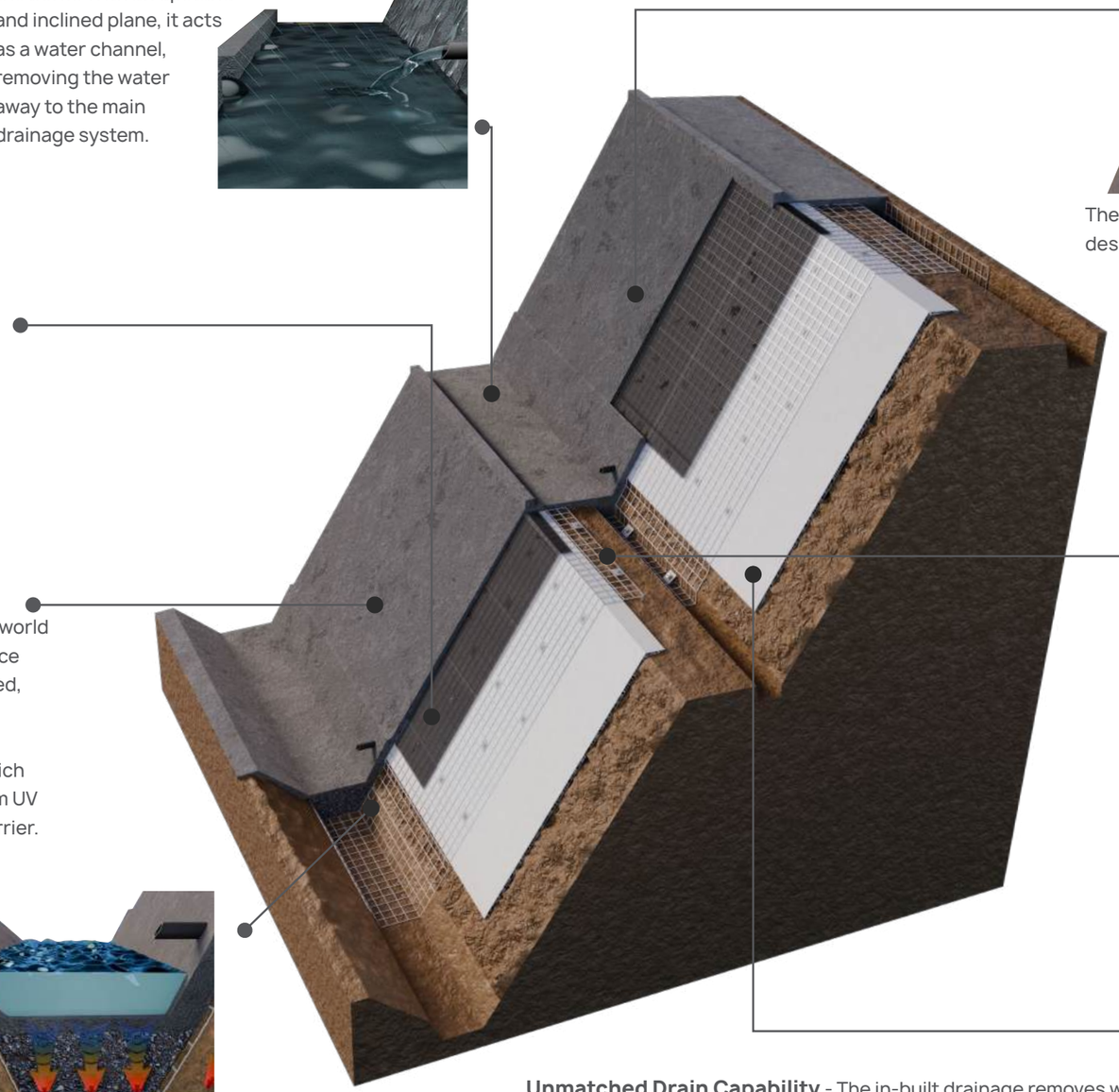
More than just Erosion Control – A SPaaP Specialty, Fully Loaded with Engineering Features

Internal and External Erosion Control – While external erosion is totally controlled with the combined effect of weatherproof plaster forming a barrier interlocked into the 3D filament providing additional cohesion to avoid peel-off, internal erosion is managed by the geosynthetic element in the drainage ensuring only water is allowed to move out of the slope, confining the fines within the slope. This ensures that no fines are lost from the mountain slope due to both internal and external water movement—a first in the slope protection industry.

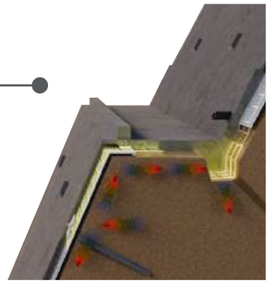


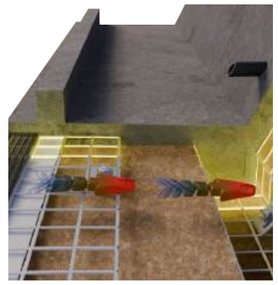
Targeted Water Diversion - ConstruckBerm acts as a barrier against water ingress onto the berm. With an upstand and inclined plane, it acts as a water channel, removing the water away to the main drainage system.





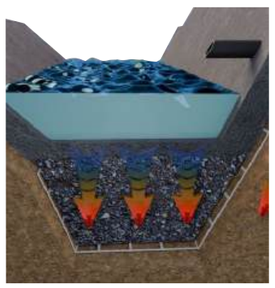
Unique Connection System for Increasing Stability – ConstruckSlope features a unique connection system where the Geosynthetic elements can transfer loads to a concrete or steel element.So instead of acting just as erosion control, it also allows absorbing the loads acting on the slope. This allows longer and steeper slope geometry that's not achievable with other systems. The various connection systems are tested for ultimate load in specially designed load tests to ensure stability.





Interlocked Internal Stability - ConstruckBerm designed as part of the system allows the 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 from slope surface, providing internal stability without expensive rock bolting.

UV Protection – While all geosynthetic products in the world suffers from sunlight and hence the need arises to be protected, ConstruckSlope Plus is UV protected with a unique dual-purpose plaster coat which protects the system both from UV exposure and forms water barrier.



Bottom Anchor and Scour protection - No parts of the ConstruckSlope Plus is left without a proper termination. This includes the footing of the slope system, which is anchored down and held by the concrete with gravity, and placed well below the water flow level. A similar system is followed on the top anchor and sides to ensure all parts of the system are terminated to avoid lateral scour. Additionally, it acts as load transfer elements at the top and bottom.

Unmatched Drain Capability - The in-built drainage removes water more efficiently than any other system available. We allow the removal of all the water seepage by efficiently removing it through a drainage element, which serves as primary protection against slope instability. This allows for negligible pore water pressure buildup at the surface of the slope. Additionally, ConstruckBerm acts as the barrier against water ingress onto the berm. With an upstand and inclined plane, it acts as a water channel, removing the water away to the main drainage.

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

Performance Requirements: ConstruckSlope Plus 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 in 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 Plus

Cut Mountains with Global Stability: Ideal for areas where minor local stability is required, providing a secure foundation for various construction projects while preventing all erosion across the entire slope.

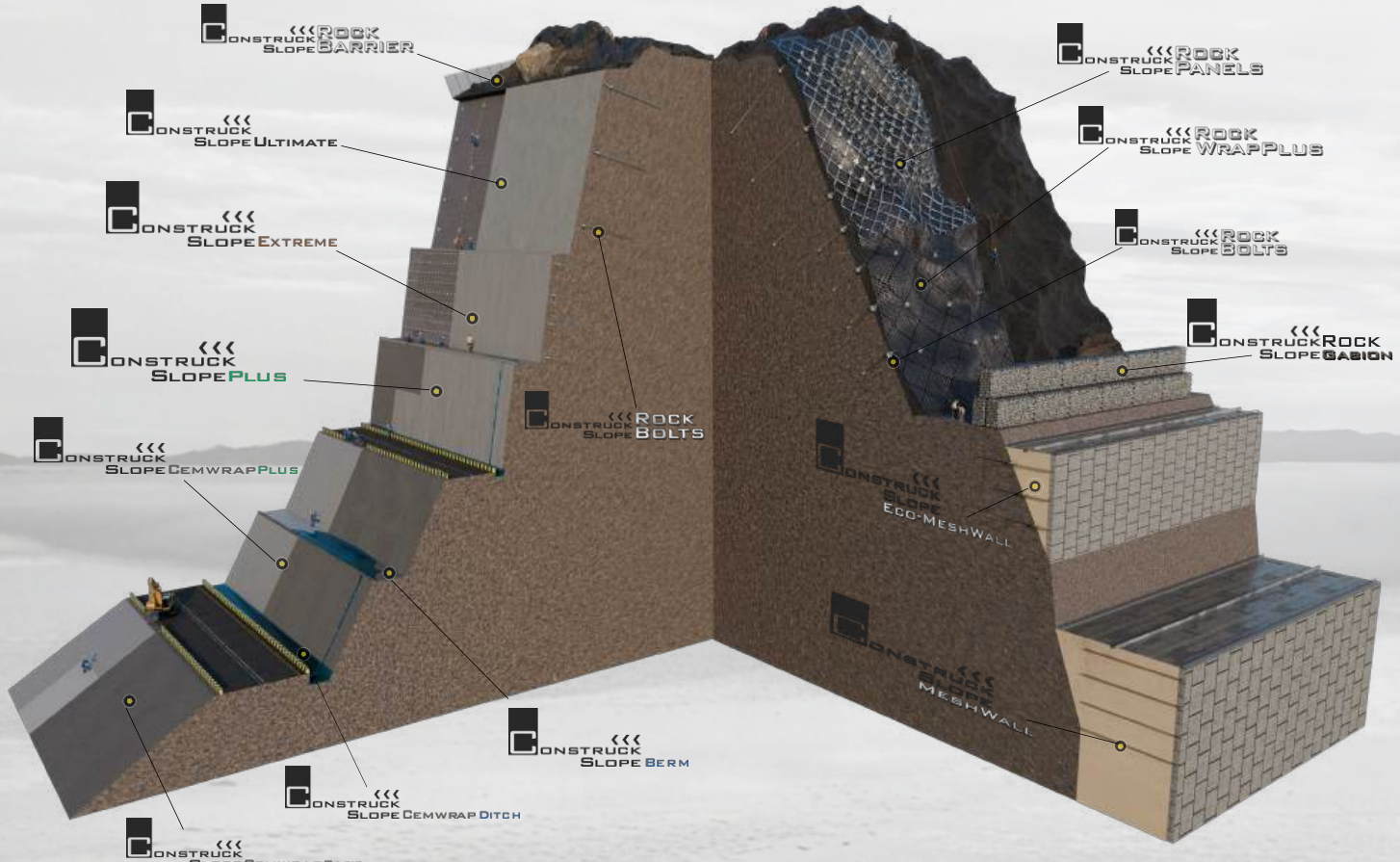
Loose Soil Slopes at the Angle of Global Stability: Whether facing with loose soil slopes or terrains prone to erosion, ConstruckSlope Plus offers reliable stabilization, maintaining stability at the angle of global stability.

Steep Embankment Slopes: Our system excels in protecting steep embankment slopes, where the embankment is properly layered, compacted and global stability is achieved.

Highly Weathered, Jointed, and Fractured Formations: Even in the most challenging conditions, including highly weathered, jointed, and fractured formations, ConstruckSlope Plus provides stability at globally stable angles, ensuring safety and security for your utilities.

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

What SPaaP® are you looking for?
Use our self-help guide and contact us for more information.



Construck Rock Slope WrapPlus

Construck Rock Slope Panels

Construck Rock Slope Bolts

Construck Rock Slope Barrier

Construck Slope Plus

Construck Slope MeshWall

Construck Rock Slope Gabion

Construck Slope Extreme

Construck Slope Eco-MeshWall

Construck Slope Cemwrap Plus

Construck Slope Ultimate

Construck Slope Cemwrap Ditch

Construck Slope Cemwrap Basic

Construck Slope Berm

Construck Systems and Technology s.r.o.
Olivova 2096/4, 110 00 Praha 1
Czech Republic
Phone: +351 21 806 7843
Email: info@construck.me

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