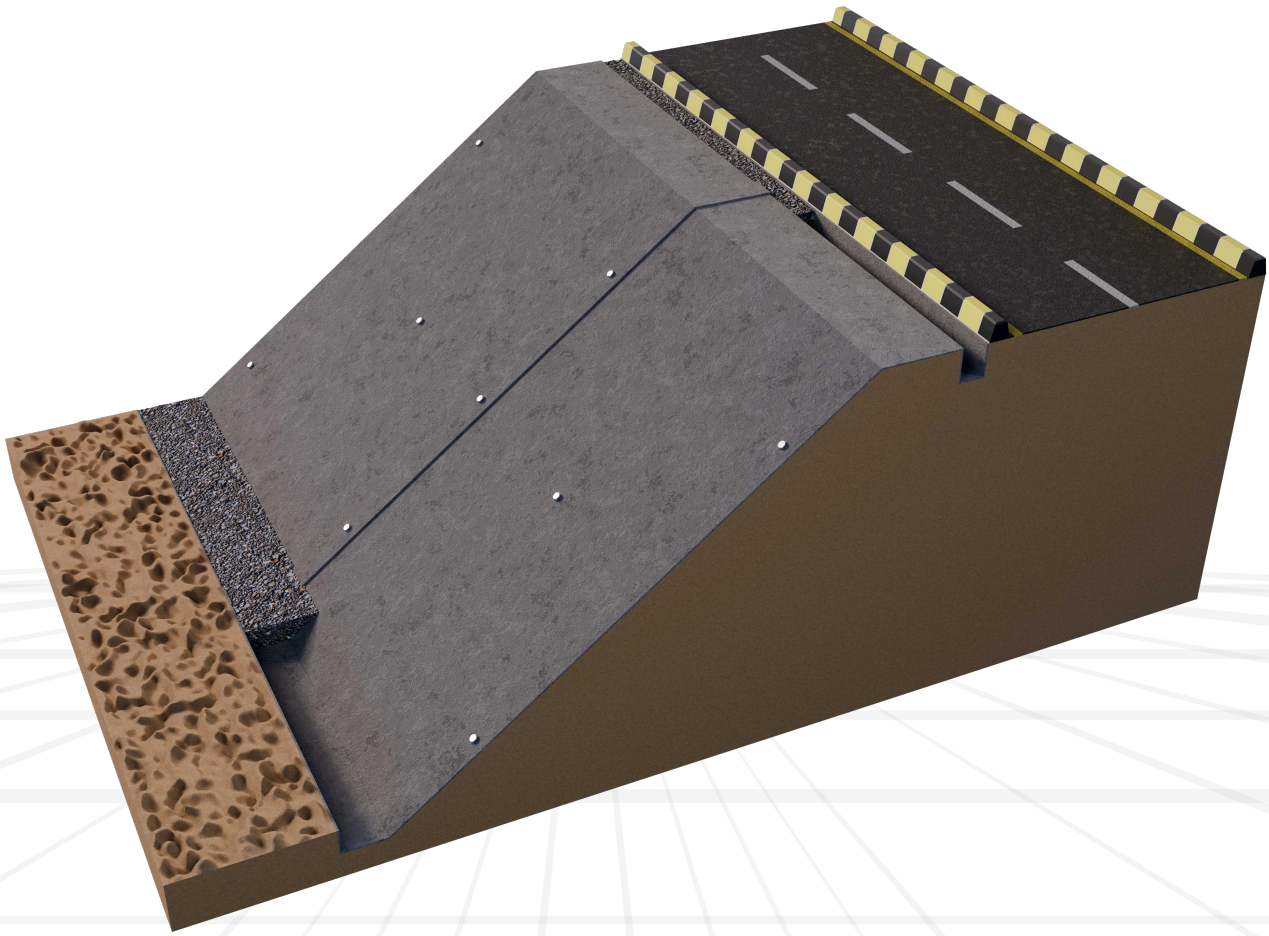
CONSTRUCK

SLOPE CEMWRAP BASIC

Embankment Erosion-Protection System

The World's Most Sustainable Embankment Slope Erosion Control Product



CST-CWB-BRO-00005
www.construck.me

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

ConstruckSlope® CemWrap Basic replaces resource-intensive rip-rap and cast-in-place concrete with a **factory-made, strength-graded GCCM** that hydrates in place to form a thin, tough concrete skin. Because it installs from **lightweight rolls** with minimal equipment, it cuts truck trips, water use, and on-site waste—while delivering consistent, pre-tested performance.



Internal biaxial geogrid

Made from rectangular, laser-welded bars: ultra-flat, low-elongation reinforcement that bonds uniformly to the cementitious core and **boosts tensile & tear resistance**.

Basalt-fiber outer geotextile

Inherently **UV-proof** and heat-resistant, protecting the composite in desert and marine exposure where common PET/PP outers degrade faster.

System, not a sheet

CemWrap Basic is delivered with anchors, **PolyFiber cement screed** for toe/crest trench locking, fixings, and detailing pieces—everything needed to achieve design performance.

Strength grades

Instead of just "thickness." **CemWrap® 30** is tuned for road/rail embankments and roadway verges.

Where it is used

- **Embankments up to 30 m face length** (with at least one bench/working platform)
- Soils: engineered fills, granular soils, stiff clays, weathered rock
- Environments: highways, rail, yards, wadi edges, coastal corridors; excellent for **high UV, saline spray, and intense rainfall** climates

What problems it solves

- Surface erosion from rainfall runoff and wind
- Local rilling and shallow slips that develop beneath rigid concrete facings
- Edge scour at the toe and crest
- Construction delays and cost overruns tied to aggregate logistics and heavy plant
- Accommodates Hydraulically Induced Stress on Embankments

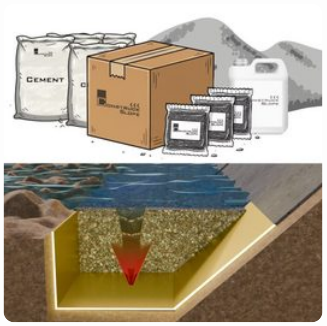
System, Components & Benefits

The ConstruckSlope® CemWrap Basic kit



Construck CemWrap® 30

Strength-graded composite with integrated **biaxial geogrid** (low elongation). Bonds flat → **high shear transfer**, fewer stress concentrations.



Construck PolyFiber Cement Screed

Fiber-reinforced, shrinkage-controlled screed placed in **toe and crest trenches**; forms a **shear-lock** that secures edges and stops under-scour.



Fixing pins & low-profile washers

Temporary mechanical restraint during placement and hydration; left in place.



Hydration kit

Low-pressure hydrators/spray bars; clean water per placement guidance.

SPaaP advantage: Because every component arrives pre-selected and factory-compatible, installers assemble **a tested system**—not a collection of parts. That means predictable quality, faster learning curves, easier QA/QC, and fewer site variables.

Benefits vs. rip-rap or cast concrete

Lightweight logistics

Fewer trucks, no large cranes; safer access on benches.

Speed

With an 8-person crew, typical output **up to ~5,000 m²/day** on accessible embankments.

Resilience

Flexible composite tolerates small subgrade movements **without slab cracking**.

Edge security

Screeded trench locks stop scour where rip-rap typically gaps.

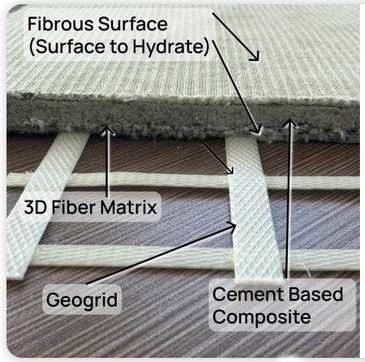
Lower whole-life cost

Minimal patching, no joint spalls, rapid storm-recovery.

Cleaner site

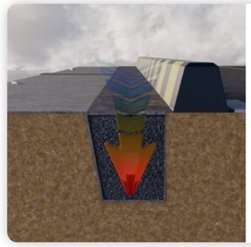
Less dust, water, and noise; small footprint around live traffic.

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



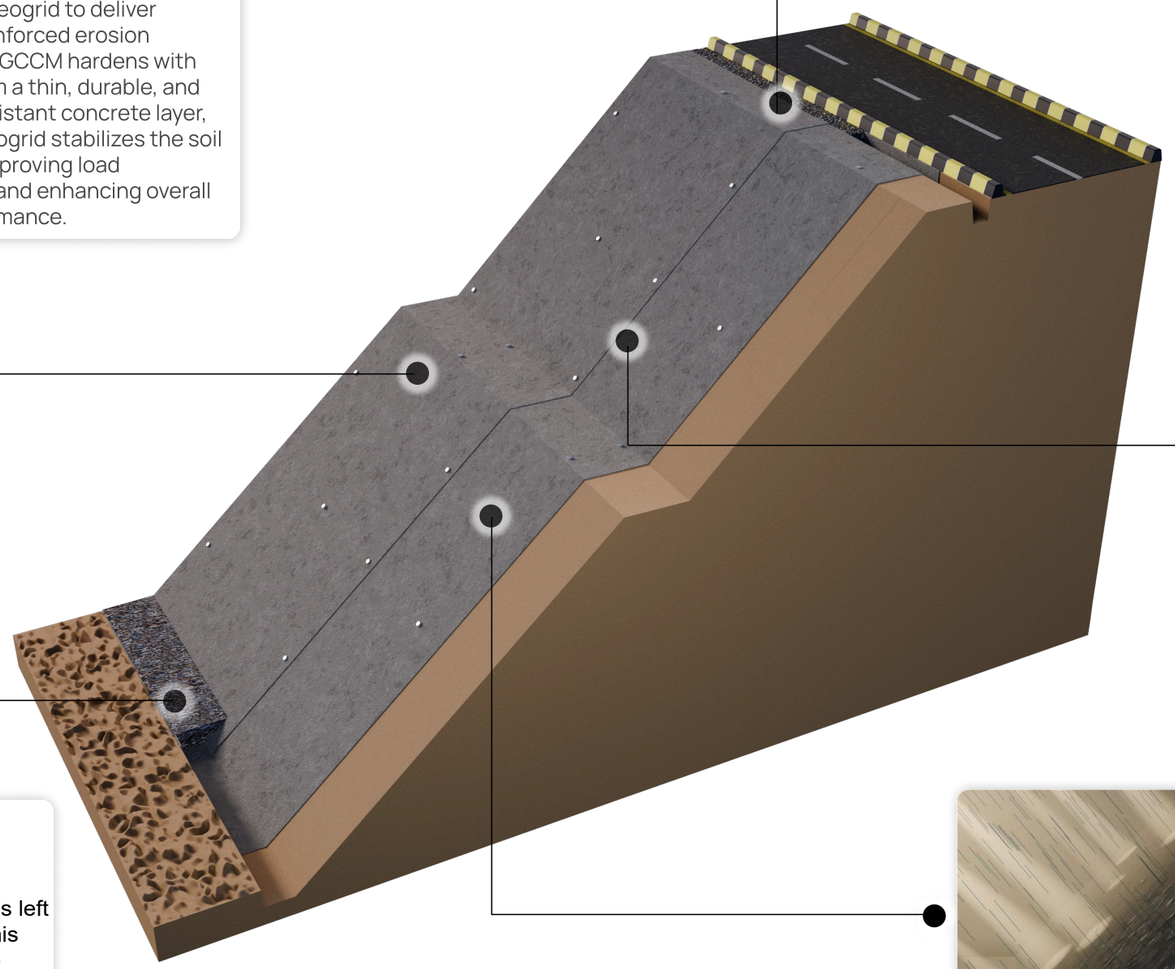
CemWrap

CemWrap combines a cement-filled fabric (GCCM) with an integrated geogrid to deliver efficient, reinforced erosion control. The GCCM hardens with water to form a thin, durable, and weather-resistant concrete layer, while the geogrid stabilizes the soil beneath—improving load distribution and enhancing overall slope performance.



Secure Top Anchor

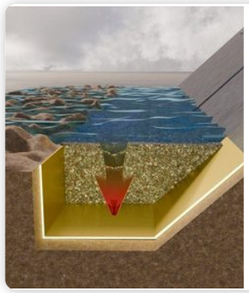
Located at the slope crest, the top anchor trench secures CemWrap firmly in the stable topsoil. It prevents sliding, uplift, and entry of surface runoff—ensuring the system stays fixed from the top down.





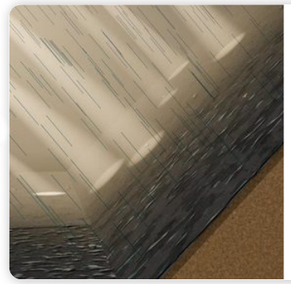
CemWrap Joint (Overlap Zone)

Where two CemWrap panels meet, they are overlapped and mechanically fastened or sealed, creating a reinforced joint that prevents water ingress, lifting, or separation. The geogrid spans beneath, maintaining load transfer and full-surface bonding.



Bottom Anchor and Scour protection

No part of the CemWrap Basic 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.



UV & Erosion Protection

The CemWrap's hardened cementitious shell acts as a protective barrier against UV exposure and rainfall, shielding the slope from surface erosion, cracking, and long-term degradation—even under harsh environmental conditions.





Performance, SPaaP & At-a-Glance Specs

How GCCM slope protection works—why CemWrap leads

Hydrated concrete skin

Forms a continuous, low-permeability armor that stops raindrop impact, rilling, and shallow slides.

Internal biaxial geogrid

Provides **in-plane tensile** and tear resistance, so the cover **does not shear within itself** under thermal cycles, subgrade irregularities, or occasional foot/maintenance loads.

Basalt-fiber outer

Preserves long-term surface integrity in **extreme UV & heat**, a common failure driver for conventional outers.

Trench shear-locks + fixings

Secure the system to the ground, resisting peel and scour at the most vulnerable edges.

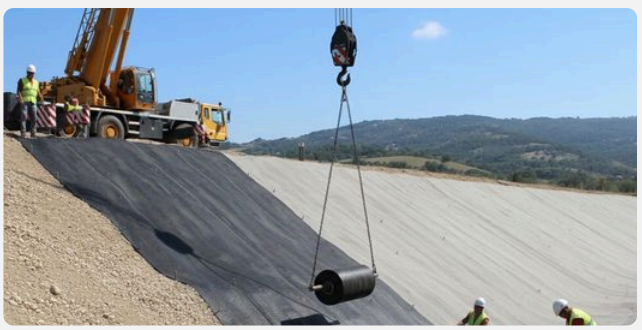
SPaaP® for Embankments — why "Slope-Protection-as-a-Product" matters

- **Factory-controlled components** → repeatable performance, less site variability
- **One crew, one kit, one warranty path** → no split responsibilities
- **Pre-performance-tested bill of materials** → faster approvals, simpler QA
- **Straight-from-factory to slope** → compressed schedules & fewer delays

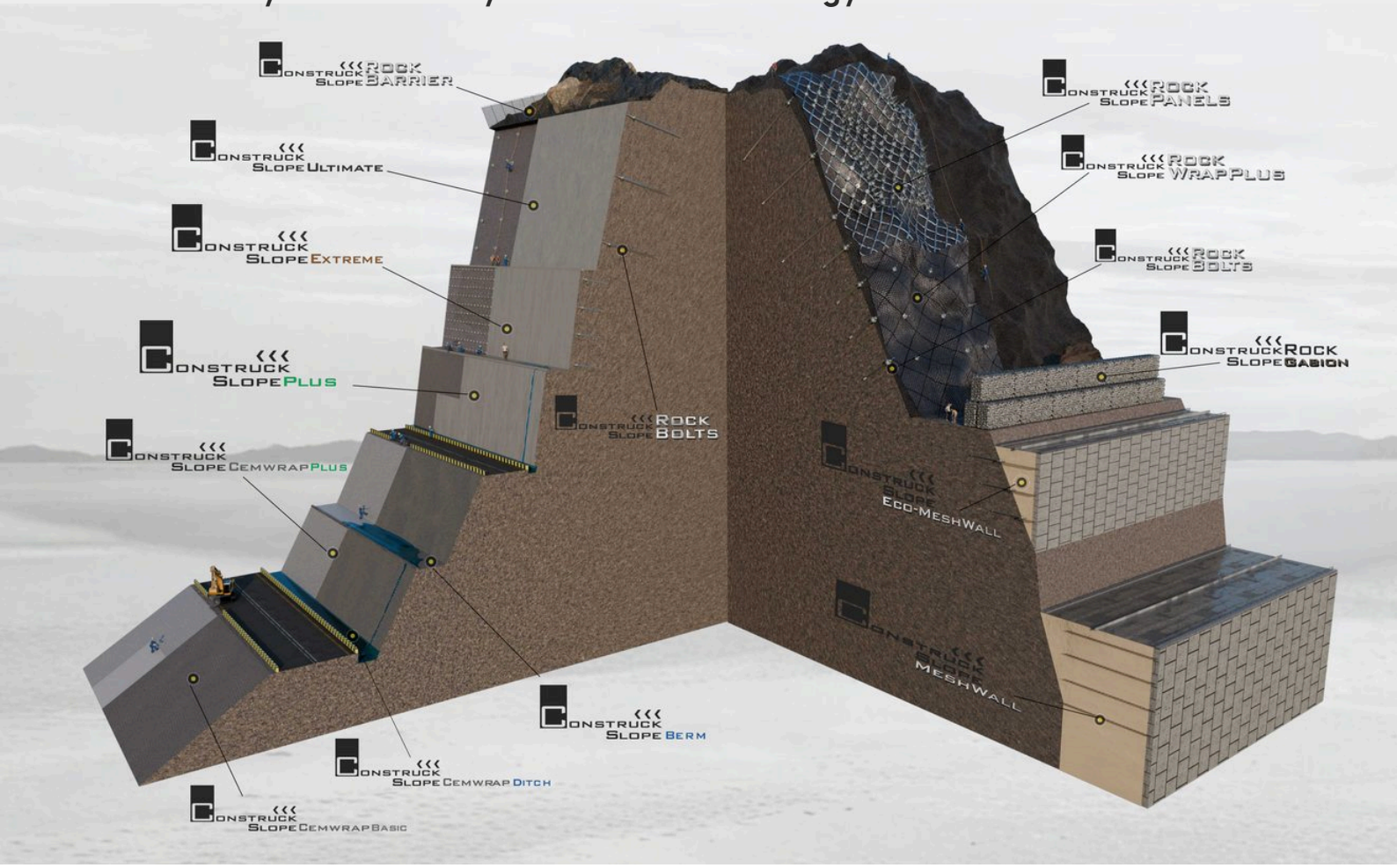


Advantages

- **Sustainable:** fewer truck trips, minimal water, reduced cement mass vs. concrete slabs
- **Fast:** up to ~5,000 m²/day with an 8-person team on accessible benches
- **Durable:** basalt UV shield + internal geogrid reinforcement for crack resistance
- **Secure edges:** PolyFiber screed trench locks stop under-scour and uplift
- **Adaptable:** conforms to complex geometry; easy detailing around outlets/walls
- **Low maintenance:** patch locally with small panels—no heavy demolition
- **Safer build:** low plant intensity; smaller footprints near live traffic



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



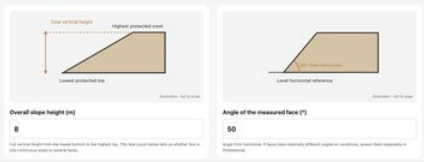
Digital support

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.

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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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