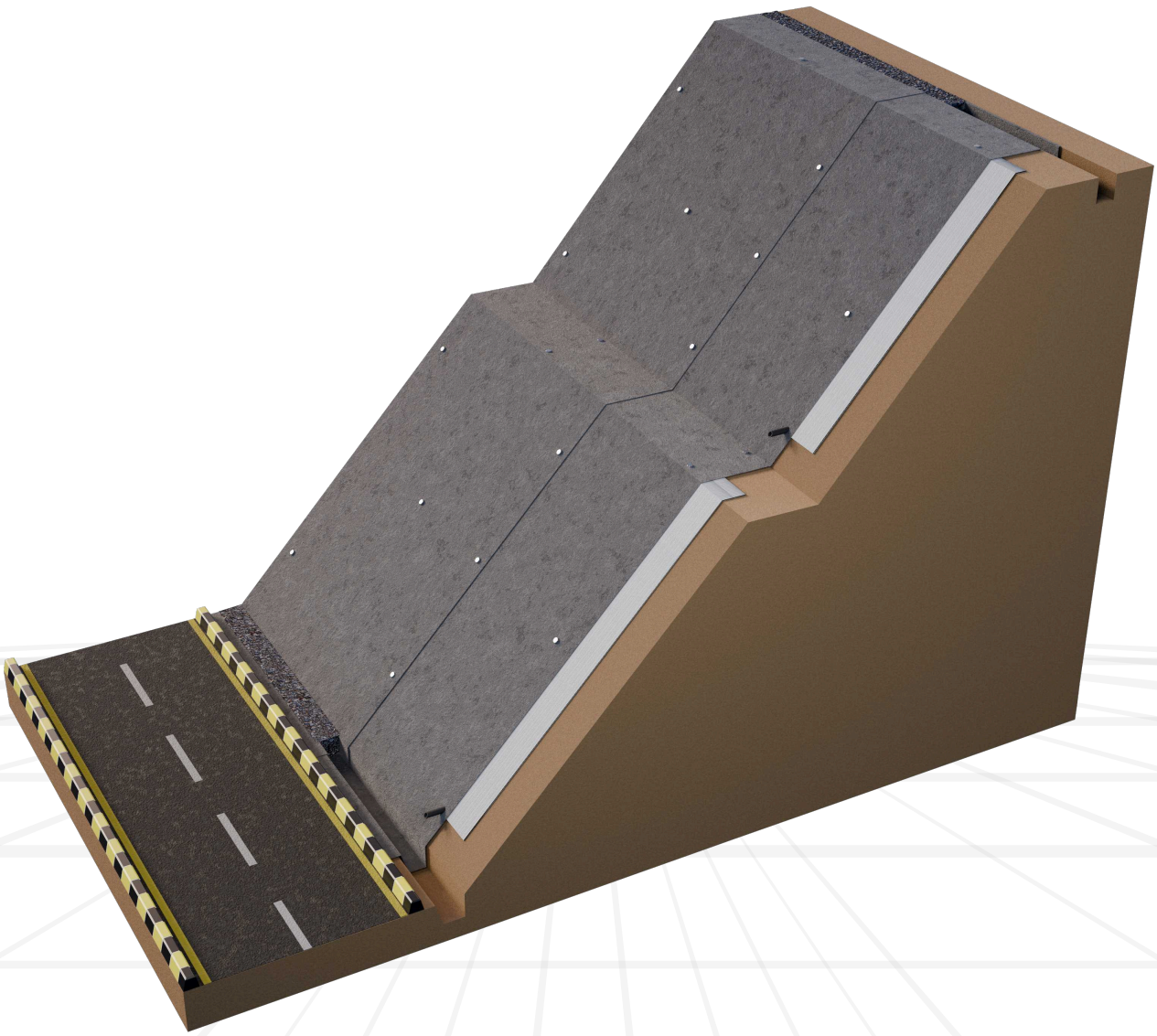
CONSTRUCK

SLOPE CEMWRAP PLUS

The World's Most Sustainable Alternative to Shotcrete/Concrete Lining to < 70° Slopes



CST-CWP-BRO-00006
www.construck.me

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

Why CemWrap® Plus

ConstruckSlope® CemWrap Plus replaces steel-reinforced shotcrete and cast concrete with a **factory-made, strength-graded GCCM** that hydrates in place and **continuously drains** the slope face. It installs from lightweight rolls with minimal equipment, cutting truck trips and site energy while delivering consistent, pre-tested performance.



> The only GCCM-based, pressure-relieving system purpose-built for mountain slopes. CemWrap® Plus unites **strength-graded GCCM**, **in-mat geogrid reinforcement**, and a **built-in drainage core** with a **UV-proof basalt outer**—delivering a **smarter, faster, corrosion-free** alternative to shotcrete for shallow mountain slopes.

Where it is used

- **Shallow mountain/cut slopes up to 70°** that already meet **global stability** and require **rain-erosion control + pressure relief**, not structural retention.
- Geologies: weathered rock mantled by soils, saprolites, colluvial veneers, stiff clays.
- Environments: highways/rail corridors, coastal corridors, wadis; excellent under **high UV, saline spray, and intense rainfall**.

What problems it solves

- Hydrostatic pressure build-up behind rigid facings.
- Face cracking, debonding, and rebar corrosion typical of shotcrete.
- Surface rilling and shallow slips on weathered faces.
- Schedule, logistics, and safety penalties from heavy plant near traffic.

What makes CemWrap® Plus different

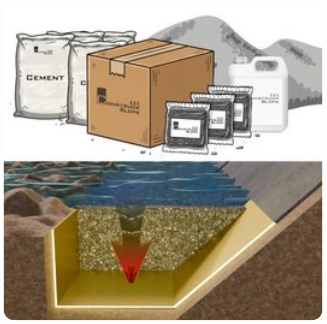
- **Strength grades (40/60/80 kN)** — specified by tensile capacity, not just thickness.
- **Integrated biaxial geogrid** (rectangular, laser-welded bars): ultra-flat, **low-elongation** reinforcement that bonds uniformly to the cementitious core and **prevents in-plane tearing/shear**.
- **3D multifilament drainage core** with **slope-facing filter geotextile**: transmits water downward and laterally to outlets while retaining fines in the slope.
- **Basalt-fiber outer geotextile**: inherently **UV-proof** and heat-resistant—ideal for desert/coastal exposures.
- **System, not a sheet**: supplied with anchors, **PolyFiber cement screed** for crest/toe trench locks, fixings, and outlet details.

System, Components & Benefits

The ConstruckSlope™ CemWrap Plus Basic Kit



ConstruckDrain



ConstruckScreed



Construck CemWrap 40-80



Fixing Accessories

Anchorage & accessories (included):

- **Construck PolyFiber Cement Screed** for **crest & toe trench locks** (continuous shear-keys that resist peel and stop under-scour).
- **Fixing pins & low-profile washers** (temporary restraint; remain sacrificial).
- **Outlet & collector details** (weepholes/drop inlets, termination bars, sealants).

SPaaP advantage: every component is factory-matched and pre-tested, so crews assemble a **proven kit**—not a mix of parts. That means faster learning, simpler QA/QC, and predictable performance.

How the flexible, drained membrane prevents failures

Rain reaches the face, passes the **filter geotextile**, flows through the **3D core**, and exits at designed outlets—**hydrostatic pressure cannot build behind the lining**.

The **CemWrap skin** provides tough erosion armor; the **biaxial geogrid** carries in-plane tension, preventing local shear or tearing of the cementitious layer.

Trench shear-locks secure the system at top and bottom; fixings control construction and wind loads.

Benefits vs. shotcrete/concrete lining

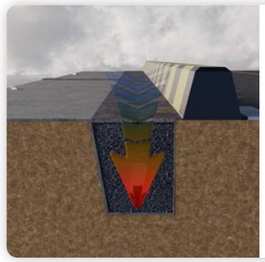
- **Pressure-adaptive**: drained system decouples water pressure from the face.
- **Crack-resistant & corrosion-free**: no steel; geogrid takes strain.
- **Fast & safer**: light rolls, simple tools; minimal heavy plant on benches.
- **Whole-life value**: fewer repairs; easy patching without demolition.
- **Aesthetics**: clean, continuous surface with engineered joints/outlets.

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



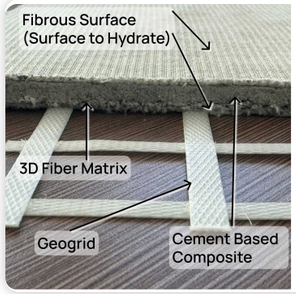
UV & Erosion Protection

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.



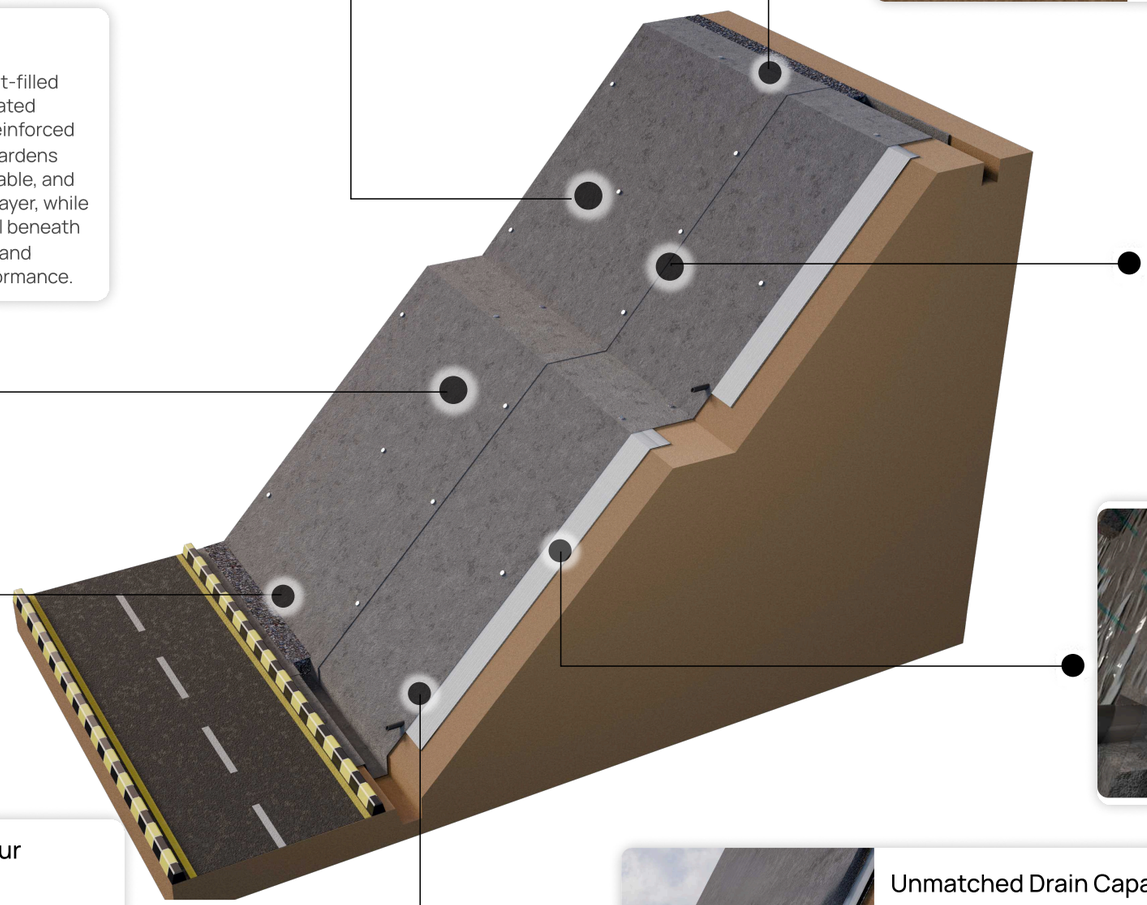
Secure Top Anchor

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

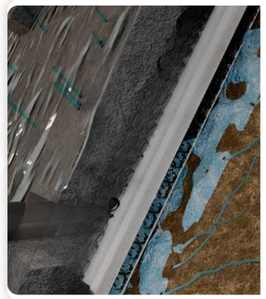
CemWrap combines a cement-filled fabric (GCCM) with an integrated geogrid to deliver efficient, reinforced erosion control. The GCCM hardens with water to form a thin, durable, and weather-resistant concrete layer, while the geogrid stabilizes the soil beneath —improving load distribution and enhancing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





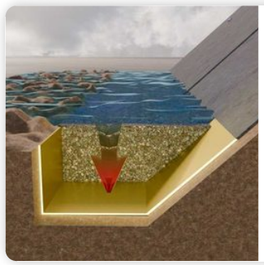
CemWrap Joint (Overlap Zone)

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.



Internal and External Erosion Control

External erosion is prevented by a thin, durable, and weather-resistant hardened cementitious shell. Internal erosion is controlled by a PVC backing layer offering resistance to UV, water, and chemical exposure, ensuring long-term durability in challenging environments such as high moisture levels or chemical exposure.



Bottom Anchor and Scour protection

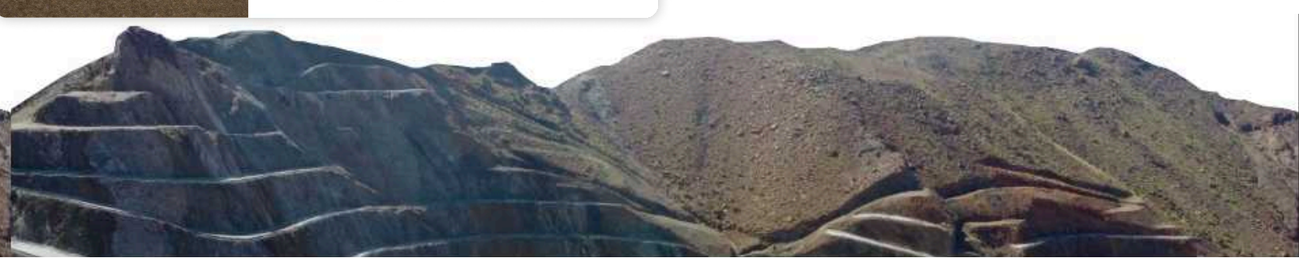
No part of the CemWrap Plus is left without a proper termination. This includes the footing of the slope system that is anchored down and held in place by the weight of the concrete and placed well below the water flow level.



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.





Performance, SPaaP & At-a-Glance Specs

How CemWrap Plus changes mountain slope protection

- **Hydrology-led design:** pressure is relieved **inside** the face; the lining stays stable.
- **Reinforced composite: biaxial geogrid** provides in-plane tensile reserve so the cementitious layer doesn't shear at overlaps or around fixings.
- **UV & heat durability: basalt outer** maintains surface integrity in harsh sun and marine spray—no steel to corrode.
- **Straight-from-factory quality:** controlled materials, repeatable results, simple QA.





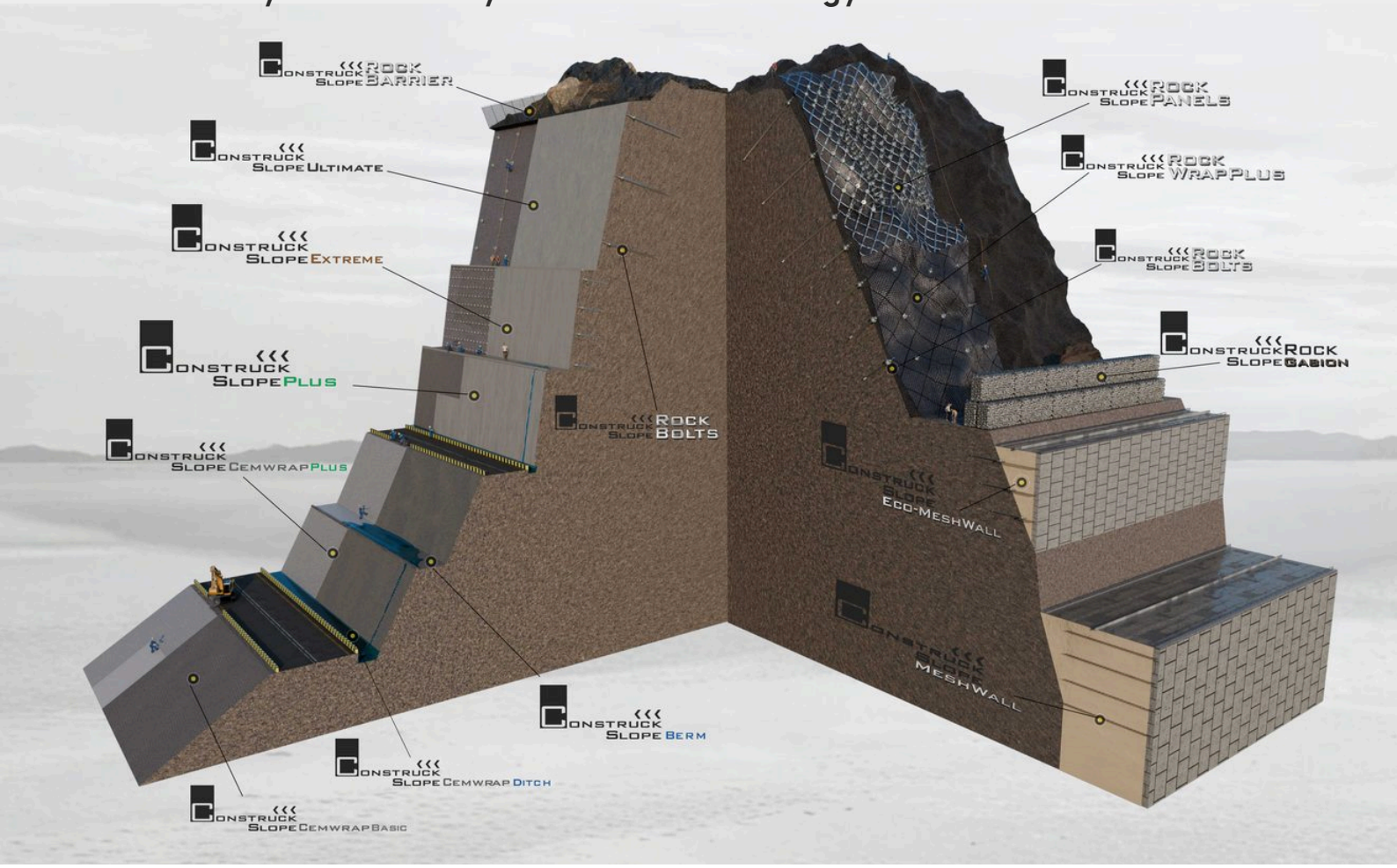
SPaaP — "Slope Protection as a Product" benefits

- One matched kit, one trained crew, one warranty path.
- **Pre-performance-tested** bill of materials speeds approvals and reduces design ambiguity.
- **Faster programs**: fewer trades, minimal heavy plant, cleaner interfaces.
- **Maintenance made simple**: patch locally with cut panels and new screed locks.

Advantages

- Replaces **shotcrete/concrete** with a **lighter, drained, flexible** composite.
- **Prevents hydrostatic build-up** → avoids crack/debond cycles.
- **Corrosion-free**: no rebar; basalt UV shield for long service life.
- **High tensile capacity** up to **80 kN** for tear/shear resistance.
- **Fast installation** with small crews and light equipment.
- **Lower whole-life cost** and minimal traffic disruption for repairs.
- **Cleaner construction**: reduced water, noise, dust, and haulage.

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



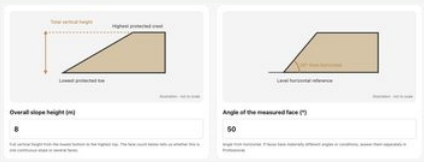
Digital support

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.

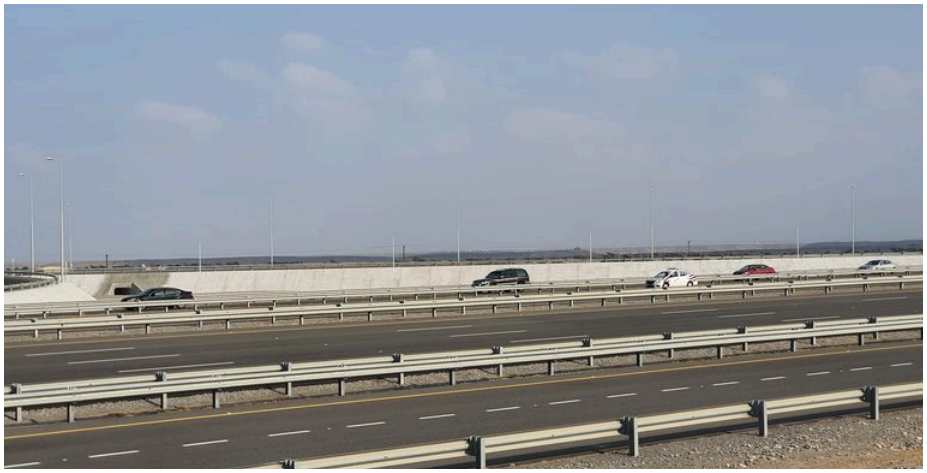
Supply and construction, coordinated
Keep technical preparation, material supply and installation quality in the same workflow.

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.













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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