



ConstruckSlope Plus[®]

A simplistic view on the sustainability benefits of the worlds most advanced erosion control system





Sustainability Report

Benefits Overview



Reduced Carbon Emissions from production through to life cycle



Reduced usage of water resources



Reduced usage of energy



Reduced usage of machinery



Reduced completion time



Reduced resources wastage due to redundancy



Lifetime sustainability benefits





Process and Method for Calculation

Data considered

- EPD Values of each component used and are certified by the 3rd party analysts and published by the respective manufacturers of each product is considered.
- EPD values non manufactured item are taken from public sources like civil engineering literature.
- Standard emissions and energy consumption of the machinery at the site while installation along with the list of required machinery for 1 complete day of production.
- On site used consumable resources calculated as per the total production per completed unit time by unit area achieved

Method of calculation (Example)

$(M2 \text{ Kg Co2 -eq Item 1 to x}) + (\text{Kg Co2 -eq emission machine per day 1 to x})/M2 \text{ per day} + (\text{Kg Co2 -eq emission consumables})M2 = \text{Total Kg Co2 - eq per M2}$

*All the values used has been from scientifically accepted sources and cumulative calculation per sqm per completed work per day is used for the various conclusions. Please refer to the detailed EPD statement on request.



1 Carbon Savings



2 Water Savings




3 Energy Savings



4 Machinery Footprint



5 Time Savings



6 Reduced Resources Wastage

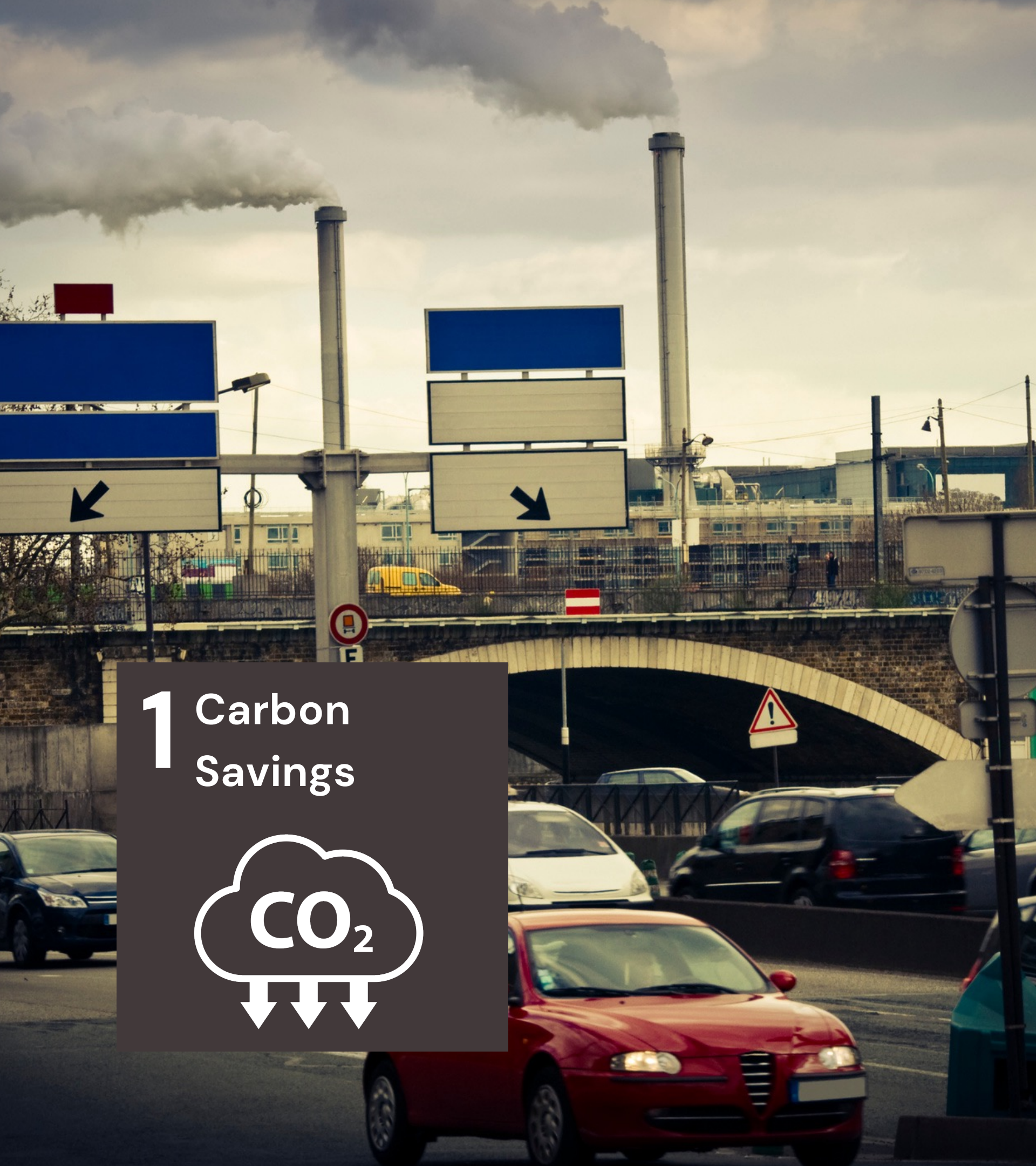


7 Lifetime Sustainability



Sustainability Report

*The calculations used in this report is derived from EPD and other documents declared by various produces. The calculations are approximate and has been adjusted to reflect the most common comparisons



Carbon Savings Calculation

Total carbon emission per sqm for ConstruckSlope Plus –23 kg CO₂ -eq

Total carbon emission per sqm for Shotcrete with Wiremesh – 38 kg CO₂ -eq

Shotcrete emits 50% more CO₂ per sqm compared to the ConstruckSlope application

1 Carbon Savings

SAMPLE

PROJECT NAME: SIDE SLOPE PROTECTION WORKS AL KHAD - SHAM ROAD

TOTAL AREA: 74,100 SQM OF SLOPE

CLIENT: SOHAR MUNICIPALITY- SULTANATE OF OMAN

- Emissions for Shotcrete with Wiremesh
- Total Emissions for ConstruckSlope Plus
- Carbon Emission Savings



Carbon emission savings was 1.11 million kg/CO₂. This is equivalent to the annual emissions of 241 cars!

= 4,600 kg CO₂ -eq/year

2 Water Savings



Water Savings Calculation

Total water consumption for ConstruckSlope Plus(Production, Transport, Application) – 25L/m²

Total water consumption for Shotcrete with Wiremesh – Production, Transport, application – 50L/m²

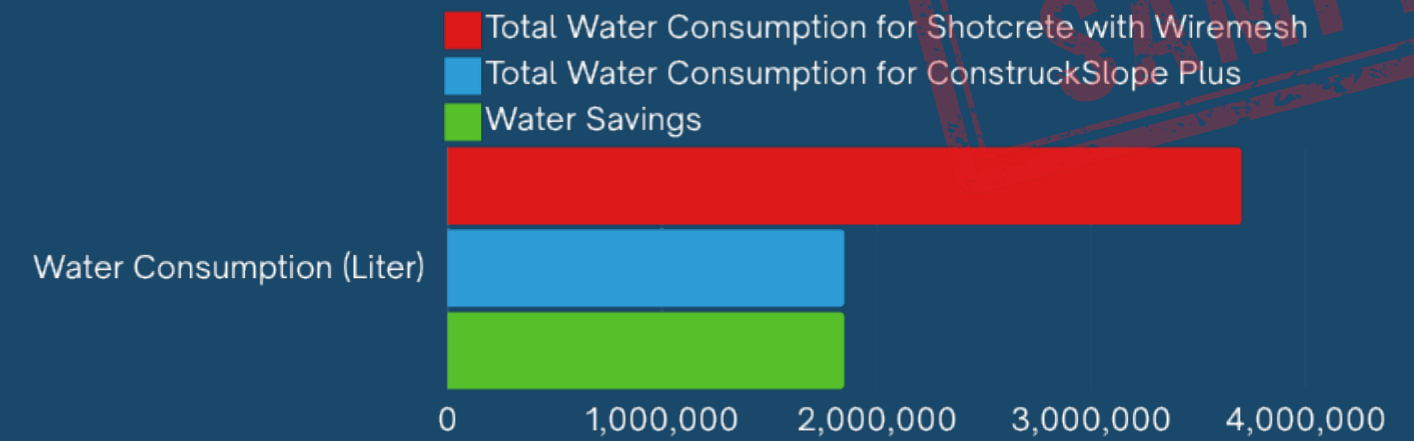
Shotcrete used 100% more water per sqm compared to the ConstruckSlope application

SAMPLE

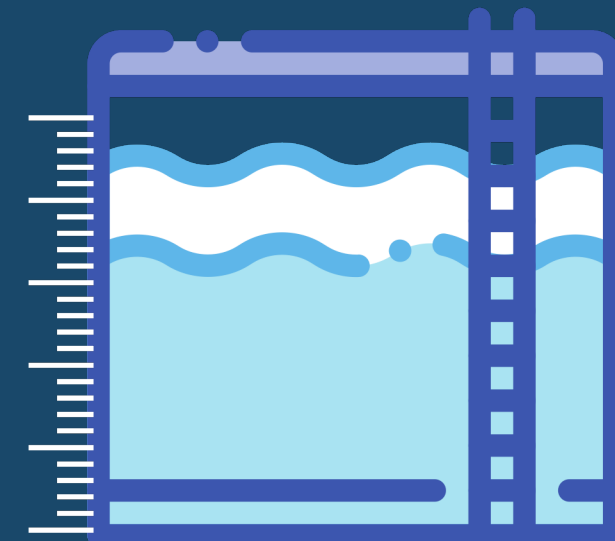
PROJECT NAME: SIDE SLOPE PROTECTION WORKS AL KHAD - SHAM ROAD

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1.85 million liters



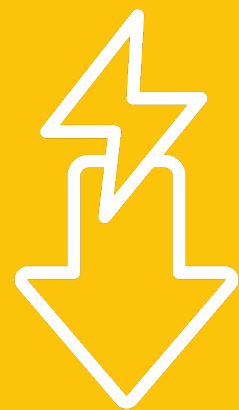
Total water savings was 1.85 million liters, which is equivalent to the Daily water consumption of about 12,350 people!



 = 150 liters per day



3 Energy Savings



Energy Savings Calculation

 Total energy usage for ConstruckSlope Plus (Production, Transportation, Application) – 0.38L/m²

 Total energy usage for Shotcrete with Wiremesh – Production, Transportation, application – 0.475 L/m²

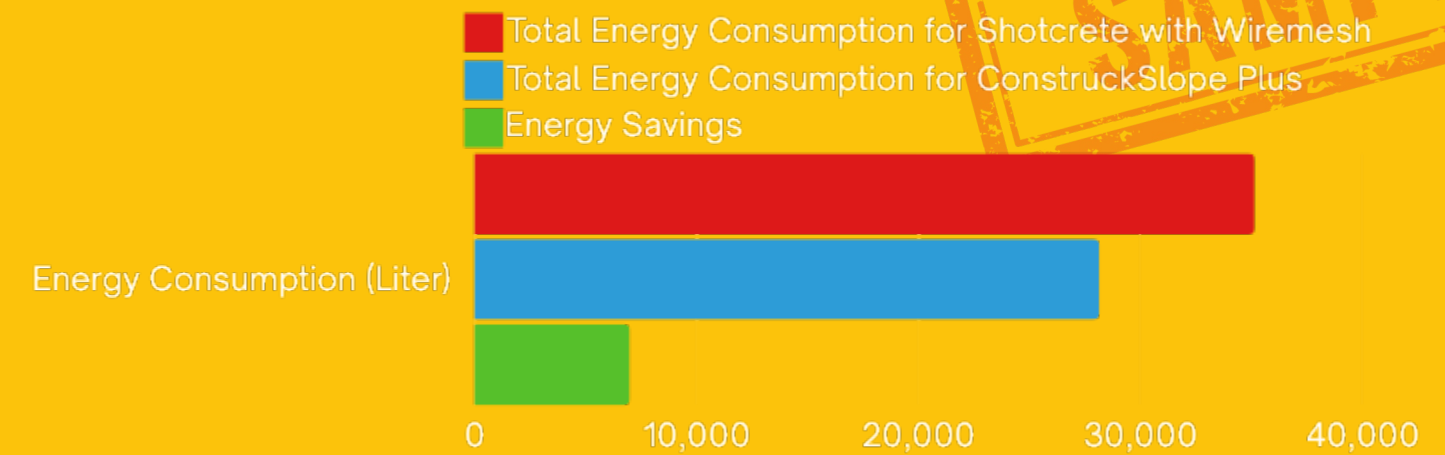
Shotcrete used 25% more fuel compared to the ConstruckSlope application

SAMPLE

PROJECT NAME: SIDE SLOPE PROTECTION WORKS AL KHAD - SHAM ROAD

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7,000 litres fuel , which is equivalent to the amount of fuel to drive 87,500 km in a standard car.



=

"enough fuel to drive around the Earth 2 times"

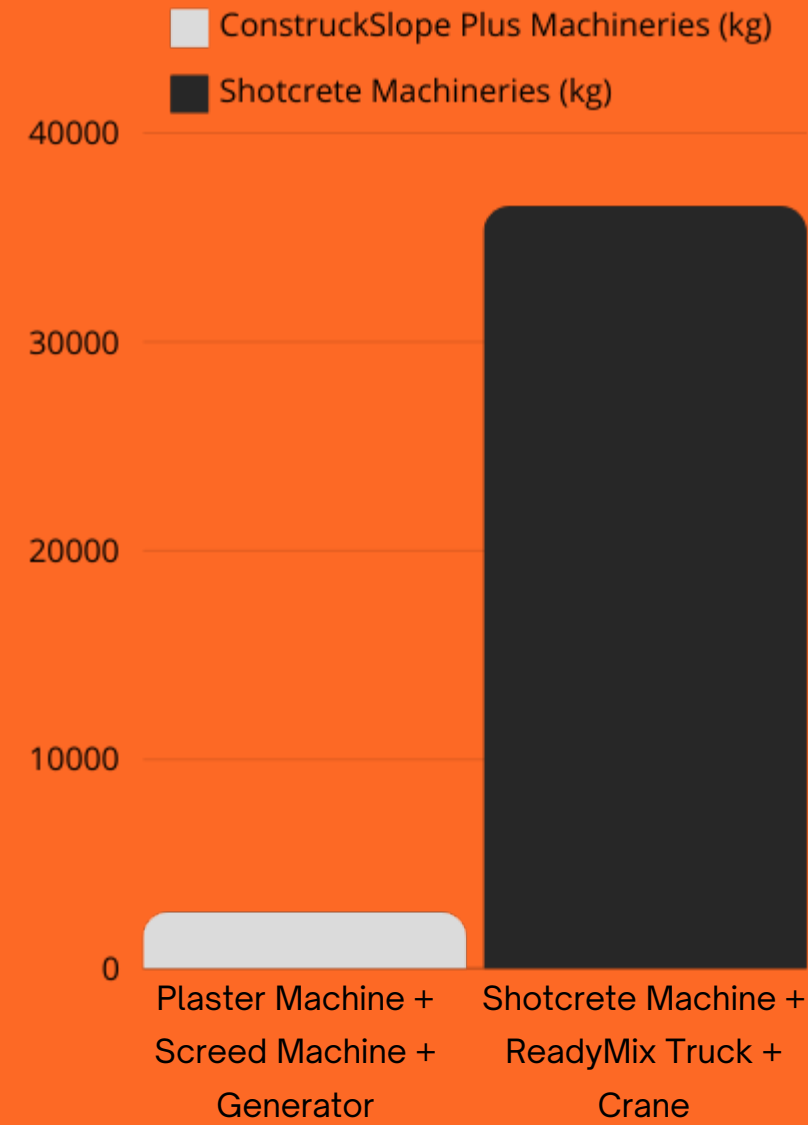




4 Machinery Footprint



Machinery Footprint



 **ConstruckSlope Plus:**
Total: 2.7 tonnes

 **Shotcrete:**
Total: 37.5 tonnes



“Machinery Footprint saving by total weights is 34.8 tonnes”



“Benefits: Reduced space requirements on-site and less heavy equipment during implementation, leading to smoother logistics and less road congestion.”



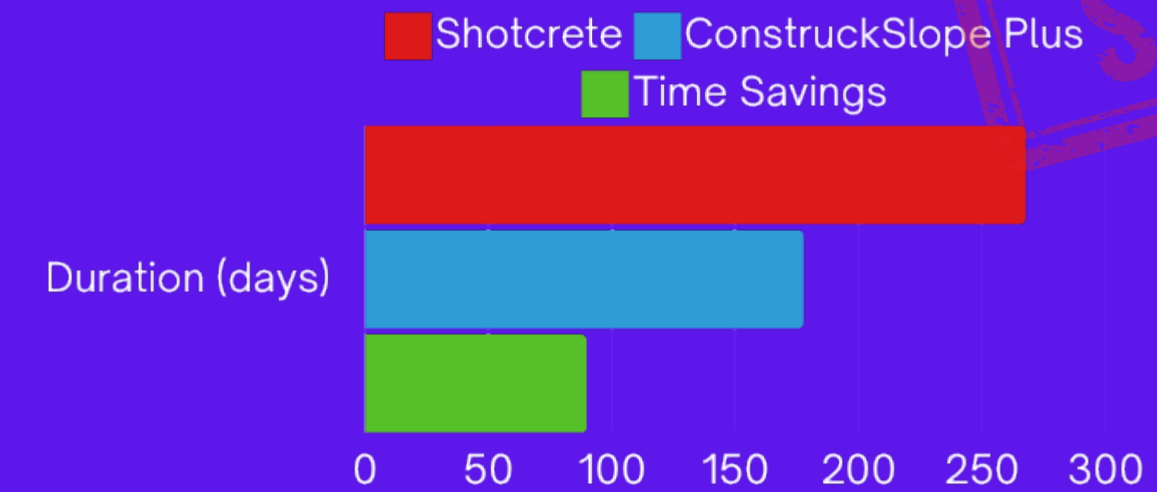
5 Time Savings

Time Savings

Average Time consumption for ConstruckSlope Plus – 1.3 Min/sqm
Average Time consumption for Shotcrete with Wiremesh – 1.8 min/sqm

Shotcrete used 50% more time compared to the ConstruckSlope application

SAMPLE
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The implementation time savings of approximately 90 days means the project was completed 3 months earlier.!



6 Reduced Resources Wastage



Reduced Resources Wastage due to Redundancy

ConstruckSlope Plus

- ↓ Material Wastage: Minimal; 0.25 m³ per plastering machine.
- ↓ Operational Efficiency: Fewer adjustments and rework; lower labor costs and resource use.

Shotcrete with Wiremesh

- ↑ Material Wastage: High; 10 m³ per ready-mix truck, approximately 3900% more wastage if any shotcrete machine breakdown or labor any other site stopping issues.
- ↑ Operational Efficiency: More frequent corrections and rework; higher labor costs and resource use.

Lifetime Sustainability Benefits

ConstruckSlope Plus

- Environmental Effects at Minimum Maintenance requirement - 100kg CO₂ -eq per maintenance.
- Life extension possible at 10% carbon emission from original

Shotcrete with Wiremesh

- Environmental Effects at Minimum Maintenance requirement at 2450 kg CO₂ -eq per maintenance
- Shotcrete total replacement and carbon emission cost is total as original.



7 Lifetime Sustainability



Thank You!

