










Project Info

-  01 / 11 / 20
-  CC8™ Bulk Rolls & Batched Rolls
-  # 4,700m²
-  Vertical layers
-  Haloul Island, Qatar
-  Qatar Energy
-  CC8™ used to prevent rain water run off infiltrating a slope and causing erosion.



Completed Installation works

In November 2020 Concrete Canvas® GCCM* (CC) was used for slope protection at a petrochemical facility in Haloul Island, Qatar.

Qatar Energy (previously known as Qatar Petroleum) were concerned with a bund located within their facility becoming increasingly damaged due to erosion, endangering road users due to soil and other substrate falling into the road below. A number of alternatives were suggested to mitigate erosion. However, these would have caused disruption to the facility and would be difficult to install due to the location and sensitive pipework.

Qatar Energy needed a rapid solution that didn't result in the facility needing to shut down but also provide long lasting and low maintenance erosion control. Thus CC8™ GCCM was chosen. CC8™ comes in both Batched and Bulk Roll format, is both rapid and easy to install and needs very little plant or labor. The CC8™ is a flexible material before hydration, making it suitable to be installed around struts and sensitive pipework.

CC8™ is a **Type II** GCCM as defined in **ASTM D8364**, it is suitable for use on soil subgrades and was chosen for this project to suit the abrasion, wear and loading requirements. CC8™ is also **BBA** certified with durability in excess of 120 years when used in erosion control applications.

*Geosynthetic Cementitious Composite Mat



Bund being prepared before installation works



All protrusions and voids removed



CC8™ installed vertically down the bund



Completed phase of installation

The installation works were carried out in 3 phases. Prior to each phase the bund had to be prepared with any protruding or loose rocks removed and voids filled with substrate to create a uniform surface for the CC8™ material.

The first phase of installation was to install CC8™ under a road bridge and around sensitive pipework. Due to the restricted access area for plant machinery, portable Batched Rolls were used. The Batched Rolls of CC8™ were installed by hand, with the material slowly rolled vertically down the bund and cut to the desired length. Each layer of the material was then overlapped by 100mm and secured using sealant and screwed down using stainless steel screws every 50mm and 50mm away from the edge.

To prevent the material from being undermined by wind and water, the edges of the CC8™ material were pegged down within anchor trenches at the crest and toe of the bund using galvanised J-pegs. Once secure, the anchor trenches were then backfilled using excavated substrate.

As access was less restricted during phases 2 and 3 Bulk Rolls of CC8™ were installed. An excavator with a spreader beam attached was used to mechanically lift the CC8™ material into place and rolled vertically down the bund, with the material cut to length using basic cutting tools. The same installation methods were carried out to secure the material. After each phase of installation the CC material was hydrated using a water bowser and hose.

Over the course of 3 phases a total of 4,700m² of CC8™ was installed in 26 days by a team of 6 during normal weather conditions for the area.