

Project Info



29 / 12 / 2014



CC8™ Bulk Roll



3550sqm



Vertical layers



Undisclosed Tank Farm, Oman



Undisclosed



CC8™ was used to prevent the weathering of a roadside slope which was leading to rockfall onto the road.



Completed installation

In December 2014, Concrete Canvas® GCCM* (CC) was used to protect a roadside slope (leading to a petrochemical facility) that was suffering from weathering erosion, resulting in rockfall onto the road. CC was installed as a trial, with shotcrete being installed simultaneously on a different part of the slope, to see which was the better method for this application and the environmental conditions.

Loose rock was removed from the face of the slope to ensure intimate contact between it and the CC. Bulk rolls of 8mm thick CC (CC8™) were delivered to site and mounted onto a spreader beam which was then hung from a crane. The rolls were lifted to the top of the slope and the leading edge was placed in an anchor trench and pegged with 380mm stainless steel pegs. The rest of the CC was then unrolled down the entire height of the slope and cut to length, avoiding wastage. This process was repeated with each layer overlapping the previous by 100mm. The overlaps were sealed with CT1 sealant and screwed at 100mm centres in 2 offset rows. Pegs were also inserted where needed down the face. These extra precautions were taken due to periodic high flow rates over the face of the slope. At the base, a mortar was used to seal the CC to the concrete substrate and to the pipes installed to allow the egress of water, preventing the build up of hydrostatic pressure behind the CC. Hydration was achieved using a 200 gallon small tanker at the crest of the slope and a bowser at the base. Due to the high temperatures a second hydration was undertaken an hour later.

The CC was over twice as fast to install as the shotcrete alternative, taking just 5 days instead of the shotcrete's 12, and also resulted in cost savings. Additionally, the shotcrete required the entire road to be closed for the duration of the works, whereas with CC the road remained open. Furthermore the shotcrete is already showing signs of failure with noticeable cracking occurring. The success of this installation has resulted in client initiating investigations into more potential projects for which CC could be used.

*Geosynthetic Cementitious Composite Mat





CC being lifted into position



CC jointed with two offset rows of screws



Hydration



Anchor trench at the crest of the slope



The finished project