

Project Info



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CC8™ Batched Rolls



250m²



Transverse layers



Falkirk Wheel, Falkirk,
Scotland



AMCO



CC8™ used to line drainage channels running adjacent to a busy rail line to prevent erosion and scour.



Completed CC lined channel in Falkirk, Scotland

In January 2018, Concrete Canvas® GCCM* (CC) was used to line a 100m long dilapidated drainage channel running adjacent to a busy rail line at the famous Falkirk Wheel in Scotland. AMCO, who have previously installed CC on many other Network Rail projects in the region, were the principle contractor for the project.

The project presented several challenges for the contractor and client. Firstly, the site was located in a remote area with no access for heavy machinery. Therefore, all materials were delivered to the site with small tracked vehicles and the contractor was limited to simple hand tools for the installation. The ground was also saturated due to recent heavy snowfall which made alternatives such as poured concrete very difficult. Ultimately, CC was chosen as it is available in portable batched rolls, which don't require any heavy machinery, while its flexible nature meant it could easily accommodate the channel without additional excavation and preparation.

50 batched rolls of CC8™ were delivered to site and the channels excavated by the installation crew using shovels. The material was cut to length on site with utility knives to reduce material wastage and deployed transversely across the width of the channel. The CC layers were then overlapped by 100mm, shingled in the direction of water flow, and screwed together at 200mm intervals with stainless steel screws. Following each day's work, the CC was hydrated from a nearby stream using a pump and hose with a diffused spray nozzle. To prevent water ingress beneath the material, the edges of the CC were terminated into hand dug anchor trenches on either side of the channel, with the material pinned and backfilled.

*Geosynthetic Cementitious Composite Mat





Railway line runs adjacent to the Falkirk Wheel



Unlined channel prior to installation



Batched rolls delivered using JCB tracked mini dumper



Anchor trenches excavated with hand shovels



CC able to accomodate existing security fencing



CC lined channel diverted water into two large culverts



Completed project

In total, 250m² of CC8™ were installed by a team of four in inclement weather conditions in three days. The ease and speed of installation resulted in a significantly reduced time on site and a reduction in the overall project cost. Due to these factors, the contractor and client deemed the installation a success and the material will continue to be specified for similar rail schemes in the region.