

Project Info



31 / 08 / 20



CC8™ Bulk Rolls



125m²



Vertical layers



Sävast station, Sweden



BDX



CC used to provide erosion protection to a slope alongside the rail line to prevent saturation of the embankment



Completed slope protection installation in Sweden

Project Introduction

In August 2020, Concrete Canvas® (CC) GCCM* was specified as a slope protection solution at a site situated near a railway line east of Sävast station in Sweden.

During the spring, meltwater would run down the hill, saturating the embankment next to the train line increasing the risk of slope instability and potential failure. When the volume of meltwater is high, it can also cause problems with the stability and integrity of the rail track itself. A solution was required to protect the track side of the embankment in order to prevent further saturation and improve water runoff into the drainage system.

CC was chosen for the project as the Trafikverket Management Team had previously investigated GCCM materials and recognised their benefits for this application. The simplicity, speed of installation and accessibility of CC meant that no alternatives were considered as a result.

The works were carried out by BDX for Trafikverket, the Swedish Rail and Road Authority.

*Geosynthetic Cementitious Composite Mat



Installation of Concrete Canvas® GCCM

Prior to installation of CC any vegetation, stones and rocks were removed from the slope's surface and a fine, sand-based material added to provide a smooth surface on which to install the CC.

Bulk rolls of CC8™ were delivered to site and laid vertically down the face of the slope, with each subsequent layer positioned so as to overlap the last by 100mm. The CC was jointed along the overlaps using 30mm stainless steel screws positioned at 200mm centres, with the edges of each CC length secured within pre-dug anchor trenches using 250mm J-Pegs.

Once the installation was completed, the CC was hydrated and the anchor trenches backfilled to prevent ingress and provide a neat termination detail.



Site prior to installation



Vegetation, stones and rocks were removed and the substrate regraded



CC laid vertically down the slope face and secured in anchor trenches



Completed slope installation



Anchor trenches backfilled for a neat termination; works carried out on a difficult to access site alongside a rail track

Project Summary

A total of 125m² of CC8™ was installed by a three-person team (including the tractor driver) in just over 16 hours. The client is happy with the outcome of the project and will be closely monitoring the installation site during the winter-spring transition period next year to establish how well it performs in preventing embankment saturation.

“The slope protection worked perfectly. During April, when the water flow from the slope above the railway embankment was at it’s peak, the water was led out through the ditch and caused no instability at all. I would recommend the solution to other similar problems at the nearby railways.”

Anders Moritz
The Senior Project Manager
Trafikverket