

## Project Info



21 / 03 / 2015



CC5™ Bulk Rolls



261sqm



Longitudinal layers



Campana-Malacatos,  
Provincia de Loja,  
Ecuador



RIDRENSUR EP



CC5™ was used to  
remediate an failing  
irrigation channel.



Completed installation

In March 2015, Concrete Canvas® GCCM\* (CC) was used to remediate a 800m x 900mm right angled concrete irrigation channel in Campana Malacato, provincia de Loja, Ecuador. The site is located on the side of a mountain at 2500m above sea level. The channel is a vital part of agricultural infrastructure for the area and it was losing 60% of its water volume through cracks and other failings. This egress of water was causing landslides which was putting lives at risk, as well as drastically reducing the number of irrigable hectares of farmland. Previous attempts at remediation included geomembrane liners, which lasted only a short time as they were easily ripped and punctured by particles and stones held in suspension. Conventional concrete had also been used, however this took the channel out of service for several weeks while the concrete set, leading to crop failure. CC provided the perfect solution as it offers scour protection and is usable within 24 hours of hydration, as well as dramatically reducing the amount of raw material transportation requirement to such a remote site.

The channel was drained and cleaned with a pressure washer and stiff bristle broom to ensure intimate contact between the CC and the concrete substrate. Bulk rolls were mounted onto a spreader beam and batched to length on site with a wireless disc cutter. A 3 layer longitudinal layup was used, with the two side layers overlapping the base layer by 100mm. These overlaps were jointed via concrete nails with washers to prevent pull through, and a 6mm bead of adhesive sealant was used to increase the impermeability of the joint. Hydration was achieved via a hose with spray nozzle attached. A second hydration was completed an hour later to ensure proper hydration of the CC5™ on the vertical surfaces.

In total, 261sqm of CC5™ were installed in 4 days by 5 people with some inclement weather. **The use of CC meant the works had minimal affect on the surrounding agricultural businesses and the channel was in use without water loss after 24 hours.**

\*Geosynthetic Cementitious Composite Mat





Cleaning the channel



Unrolling the first layer of CC



Ensuring intimate contact with the substrate



Placing the third layer of CC



Concrete nail with washer



The finished channel in use