

Project Info



03 / 02 / 16



CC8™ Bulk Rolls



250sqm



Transverse layers



La Mina, Albania-La Guajira, Colombia.



Lumus SAS



2 Dissipater Channels were installed as part of a trial, to provide drainage, avoid erosion and measure the level of sediment that originates on the main road.



Carrejón
Minería responsable

LUMUS

INNOVACION | INGENIERIA | CONSTRUCCION



The installation during hydration

In February 2016, Concrete Canvas® GCCM* (CC) was used to create 2 dissipater channels at La Mina, Albania-La Guajira, Colombia. A total of 2 dissipater channels out of 8 were installed with CC as part of a trial in order to provide drainage, avoid erosion and measure & control the level of sediment that originates on the main coal mine road during the rainy season.

The main objective of this trial was to prove which of the 8 drainage systems (2 using CC8™, 2 cyclopean masonry, 2 concrete and 2 natural - cleared land, no lining) had the better effect in controlling the sediment that ended up in one of the main natural water streams that runs along the mine. As part of the environmental authority requirement, the coal mine was looking for a quick, durable and effective solution to solve this issue.

Due to the high level of sediment ending up in a natural water stream during the rainy season, The ANLA (National Authority for Environmental Permits) demanded a lining solution to avoid further presences of extreme erosion and high level of sediment affecting the environmental surroundings. CC was selected as one of the possible lining options.

The work was carried out by LUMUS SAS for Carbones del Cerrejón Ltd.

*Geosynthetic Cementitious Composite Mat





The area was graded after vegetation, loose soil and rock removal



Anchor trenches were dug parallel to the channel



1.4m transverse wooden bafflings were inserted every 1.2m



The CC before jointing or hydration



Wood screws were used to secure the CC to the wooden baffling



A 1000 litre on-site water tank was used for hydration



The Dissipater Channel during hydration

Removal of any vegetation, loose soil and rock took place prior to installation, with anchor trenches being excavated at both sides of the channel. 1.4m transverse wooden bafflings were inserted every 1.2m throughout the installation. The CC was deployed from bulk rolls mounted on spreader beam equipment. The CC was trimmed using knives, anchored to the ground by the use of steel pegs and held in place prior to/during hydration by heavy rocks in places. The overlaps were jointed using stainless steel screws at 200mm centres, combined with wood screws to secure the CC to the wooden bafflings. A 1000 litre tank and hose with a nozzle fitted was used for hydration. The anchor trenches were then backfilled.

250sqm of CC8™ were installed in 2 and a half days by 4 people, in high temperatures averaging 34°C with windy and dusty conditions. Overall, the project was a success in terms of ease and speed of installation.