



# CONCRETE CANVAS™

*Concrete Impregnated Fabric...*

## DITCH LINING CASE STUDIES



2013 Macrobert Award  
Finalist



2013 Innovation Award Winner  
Ralltex Exhibition



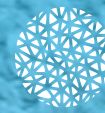
2012 R&D 100 Award winner  
R&D Magazine



2011 Expert's Choice Winner  
Most Innovative Product



2011 Brit Insurance  
Designs of the Year Nominee



Material ConneXion  
MEDIUM AWARD  
MATERIAL of the YEAR 2009

2009 Winner  
Material ConneXion Medium Award  
Material of the Y



2007 Winner  
D&AD Yellow Pencil Award  
Product Design

[www.concretecanvas.co.uk](http://www.concretecanvas.co.uk)



## Project Info



02 / 10 / 2012



CC5 Bulk Rolls



53,200sqm



Transverse layers



3rd Region of Atacama, Chile



Lined ditch to divert glacial melt waters away from copper mine



Section of CC-lined ditch undergoing hydration

**POLYTRADE**  
www.polytrade.cl

The Caserones Project is a ditch-lining project located in the 3rd Region of Atacama, 800 kilometres to the north of Santiago, with the aim of diverting glacial melt water that threatens to flood a nearby copper mine, owned and operated by Minera Lumina Copper Chile (MLCC). The project was being undertaken in a remote and challenging environment, with the bulk of the installation over 4,000m above sea level in an area subject to temperatures ranging from -10°C to 20°C.

CC5 was delivered to site in bulk rolls and dispensed using a spreader beam and crane truck. Lengths of 6.4m were cut on site to allow the CC to be laid across the width of the ditch, then held in place with ground pegs before being buried in an anchor trench situated at the head of the ditch sides. Adjoining layers of CC were overlapped by 100mm in the direction of water flow and held together with screws. The CC was hydrated using a sprayer truck, dispensing water that had been mixed with a CC-approved accelerant to help the material set faster in the cold environment. The hydrated CC was then covered in plastic sheeting for three days to again protect it from freezing temperatures during setting.

CC's ease of use meant that two 5-man teams were able to install it at an average rate of 144sqm/hour, without the need for specialist training, equipment or heavy plant. 53,200sqm of CC5 was installed in total.







The ditch was graded and cleared of rocks and debris prior to installation



Parts of the ditch had been lined using poured concrete in the past



CC pegged to head of ditch edges and buried in anchor trench



Water/accelerant mix dispensed from water tanker during hydration



Hydrated CC covered with plastic sheeting to protect from low temperatures



Completed lined section of ditch



## Project Info



08 / 02 / 2011



CC13 bulk rolls



2000sqm



1 linear layer



Caerphilly, Wales, UK



Cosslett Engineering



Lining of the drainage inverts to prevent scouring on a disused coal mine spoil tip. Commissioned by Caerphilly County Council.

The ability of Concrete Canvas to be installed in wet weather significantly reduced disruption to the project.



Wet weather installation



[CLICK TO WATCH VIDEO](#)

Installation of single layer of CC13 along channel in wet conditions



CC bulk roll transported to site



CC secured to substrate with pegs



Completed CC lined channel







Completed ditch with water flow



Start (09:06am) [0m]



(09:34am) [16m]



(10:06am) [32m]



Finish (12:02pm) [140m]

## 14.09.09 Case Study : Chipping Sodbury

In September 2009, a 140m section of ditch was lined using Concrete Canvas by AMCO, (Amalgamated Construction). The project was commissioned by Network Rail to provide drainage at the top of a railway embankment in Chipping Sodbury, Gloucestershire.

This was the first time AMCO had used CC for ditch lining and the project was heralded as a major success. CC was significantly quicker and easier to install than conventional concrete slab construction, reducing the project cost and time on site. The Concrete Canvas was supplied in man portable rolls for ease of use on a site with limited access.

“Concrete Canvas is incredibly quick and easy to use. It **allowed us to line over 100m of ditch in less than 8 hours**, with the minimum of man power and plant equipment. The time and expense saved, means I will have no hesitation in recommending Concrete Canvas for future projects.”

**Andrew Gurd, Drainage/Construction Manager  
Amalgamated Construction Ltd**





## Project Info



08 / 08 / 2012



CC8 bulk rolls



1125sqm



3 longitudinal layers



Junction 12, M1  
Bedfordshire, UK.



Costain & Carillion  
Joint Venture



  
Installation time  
reduced by  
60%

"Part of the M1 junction 12 project involved the lining of a 320 linear metre top of batter V ditch to prevent seepage and control water runoff. Concrete Canvas was specified over traditional concrete solutions for this project due to site limitations. **The project was a success as the programme, originally scheduled for completion in 3 weeks, was completed in 5 days.** Having used the product on previous projects, I knew the speed and ease of installation would be of great advantage to us."

Dale Flower Bsc (Hons)  
J12 Roadworks Section Engineer  
Costain Carillion Joint Venture

[CLICK TO WATCH VIDEO](#)

Completed lined ditch section



Batter prior to ditch excavation.



Graded ditch section with vegetation removed.



Lining the bottom of the ditch with the first longitudinal layer of CC



Lining the left side crest of the ditch







CC Bulk rolls arranged for installing three longitudinal layers



Detail showing overlap between longitudinal CC layers



CC was secured with steel ground pegs at 2m intervals.



The edges of the CC were anchor trenched and backfilled after hydration.



Completed CC ditch section terminating in concrete culvert.



## Project Info



10 / 04 / 2012



CC8 bulk rolls



50sqm



Vertical tranverse layers



Nocaima, Colombia



MERT S.A.S



CC lining of a sand bag constructed trap. The trap is designed to reduce water velocity and turbulence which allows solid material transported in suspension to settle to the bottom of the trap before removal.



Completed CC lined trap



Construction of the trap using sandbags which if not lined with CC, would eventually degrade due to water erosion and UV degradation



CC fixed with re-bar fixings

