

Project Info



01 / 05 / 2015



CC5™ Bulk Rolls



10,600sqm



Transverse layers



Mooi River irrigation canal, Muden, KwaZulu Natal, South Africa



Medina Engineers & Dwenga Trading JV



CC5™ was used to remediate a failing irrigation canal.



Completed installation in use

In May 2015, Concrete Canvas® GCCM* (CC) was used to remediate the Mooi River irrigation canal, Muden, KwaZulu Natal, South Africa. The canal was badly cracked leading to large amounts of water loss. Poured concrete was considered for the project, however some areas of the canal were only accessible by foot, which would have made a poured concrete installation difficult. In addition CC minimised the interruption to the water supply for the residents along the canal, who depend on it.

The installation was carried out as a joint venture between Medina Engineers and Dwenga Trading, with consultation from Element Consulting Engineers for The Department of Rural Development and Land Reform. Due to the profile varying between 2m and 3m a transverse layup was used to minimise wastage. To prepare the canal any debris or vegetation was removed, crumbling concrete was removed from cracks and voids before they were filled, and anchor trenches were excavated along the shoulders of the canal. The CC5™ was mounted onto a spreader beam hung from a JCB 3DX Backhoe Loader and batched to specific profile length on site. The CC was unrolled across the channel, with the open edges placed into the anchor trenches. Subsequent lengths overlapped the previous by 100mm. Hydration was achieved with a 5000L water bowser and hose. 30 minutes after hydration knuckle joints were formed by folding the material back under itself, creating a 50mm wide knuckle. These joints were then hydrated again and compressed with sandbags. After setting the anchor trenches were backfilled.

In total, 10,600sqm of CC5™ were installed by 12 people at rates of up to 240sqm a day, in temperatures of up to 36°C on a site with some access issues. The Department of Rural Development and Land Reform were very pleased with the installation and Element Consulting Engineers is considering it for use on similar projects.

*Geosynthetic Cementitious Composite Mat





Site before works began



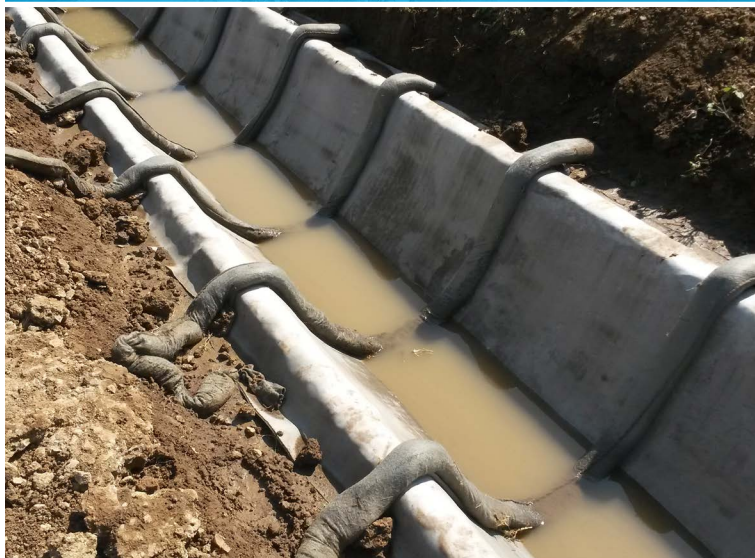
Dispensing the bulk roll for on-site batching



Unrolling a batched length



Hydration



Compressing the joints after hydration



The completed ditch