



Project Info




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CC8™ Batched Rolls



335m²




Transverse Layup




Brinchang Cameron Highland, Pahang Malaysia



Pahang Water Management Corporation



CC8™ was used to line the channel to increase raw water intake for a water treatment plant



CONFORMS TO:

ASTM

D8364 - STANDARD SPECIFICATION FOR GCCMS

Finished installation

In November 2020, Concrete Canvas® GCCM* (CC) was used to formalise and line a channel to increase raw water intake for a water treatment plant in Pahang, Malaysia.

The client wanted a hard armoured erosion control solution but also needed to ensure that the material used for the channel lining did not contaminate the watercourse. Poured concrete was considered but due to the remote location of the project, it would have been difficult to get the concrete to the channel and would have taken a long time to install and cure to prevent contamination of the raw water. The client decided to line the channel in a GCCM instead.

Concrete Canvas® is the original GCCM and the first product to declare conformance to [ASTM D8364](#) – Standard Specification for GCCMs. This is the only internationally recognised GCCM specification standard and lists erosion control applications by three classifications, Type I, Type II and Type III. It defines the minimum performance values required for each type based on the use of test methods that are specific to GCCM materials. ASTM D8364 is an important resource for clients, consultants and contractors wishing to ensure the GCCM used on their project is fit for purpose.

CC8™ is a Type II GCCM as defined in ASTM D8364 and was chosen for this project due to the poor site access. The CC8™ material was supplied in man-portable Batched Rolls, reducing the requirement for heavy plant machinery. CC8™ is also BBA certified with durability in excess of 120 years when used in erosion control applications.

*Geosynthetic Cementitious Composite Mat



Completed Installation

Independent leachate testing had been carried out on Concrete Canvas® GCCMs and show there is a low washout on hydration. CC has been used by environmental agencies globally for raw water applications and was therefore considered the perfect solution for this project.

To enable the substrate to be prepared, the existing creek was diverted temporarily. Rare species of plants were present in the location of the channel, so careful. The ground preparation was necessary, removing vegetation and shrubs before profiling the soil to the required channel dimensions.

The CC8™ Batched Rolls were laid transversely along the channel and fixed to the substrate using ground pegs. Subsequent layers were shingled in the direction of water flow overlapped by 100mm and were then jointed using screws at 200mm centres. The edges were then fixed to the substrate within anchor trenches on each shoulder of the channel. CC was hydrated with water from the creek, which provided an easy solution for hydration of the material, removing the requirement for finding a water source.

A total of 335m² of CC8™ was successfully installed by a team over two weeks, including the substrate preparation works. The project was a success, the client was satisfied as the volume of water intake had increased from 40m³- 60m³/ hour to 150m³-180m³ per hour.