


Project Info

-  22 / 02 / 22
-  CC5™ Batched Rolls
-  25m²
-  Vertical layers
-  Chirk, Wrexham, North Wales
-  Collis Civil Engineering
-  Prevent vegetation from growing up through the glass reinforced plastic (GRP) access stairs.






Complete works

In February 2022, work was carried out on behalf of Network Rail (Wales and Borders) to install 25m² of Concrete Canvas CC5™ to provide weed suppression below Glass Reinforced Plastic (GRP) stairs close to a section of railway track in Chirk, Wrexham, North Wales.

Network Rail set up a programme of upgrading access points along the rail network. Already installed concrete access steps were suffering degradation and significant vegetation growth. The overgrown vegetation posed a significant trip hazard and incurred large annual maintenance costs.

At Chirk Railway Station in Wrexham, North Wales, Network Rail's appointed contractor Collis Civil Engineering was tasked with upgrading the existing access point. A glass reinforced plastic (GRP) staircase was installed. To prevent vegetation from growing between the access stairs and causing a hazard, weed suppression was suggested.

A number of alternative solutions were considered including plastic geomembrane lining or non-woven fabrics. However, these materials can degrade in the sun and may blow away in strong winds. CC5™ was chosen due to its speed and ease to install but also its low maintenance and ability to provide effective long lasting weed suppression.

*Geosynthetic Cementitious Composite Mat



Completed weed suppression

To prepare for the installation of CC5™ topsoil had been placed down the day before ensuring the ground was free of any vegetation. Large rocks were removed to create a uniform surface. Once the ground was prepared, Batched Rolls of CC5™ were delivered to site. Batched Rolls are simple to install and do not require machinery or plant to lift. That meant the installation team could simply pick-up the Batched Rolls and unroll them under the GRP steps.

The Batched Rolls of CC5™ were laid by hand vertically. The leading edges of CC5™ were pegged down using 250mm galvanised pegs inside anchor trenches located at the toe and crest of the slope. Each of the overlapped layers of CC5™ material was sealed using a continuous 8mm thick bead of sealant and further secured with an auto fed screwgun inserting a double line of 30mm stainless steel screws at 100mm spacings. The CC5™ was then cut to fit around the vertical upstands with the gaps filled with sealant. This will prevent vegetation penetrating between the CC5™ material and upstands.

Once installed the CC5™ was hydrated by hand using large 25litre water bottles. In total 25m² of CC5™ were installed over 3 hours. Collis Civil Engineering found the material simple and fast to install.

The project has been a great success. The aim of mitigating weed growth has been achieved as seen in a follow up visit 3 months after installation. Subsequently an additional four access points have been lined with CC5™ to provide weed suppression.