



Project Info

-  29 / 01 / 14
-  CC5™ Batched Rolls
-  270m²
-  Transverse layers
-  Brecon, Wales, UK
-  Natural Resources Wales
-  CC5™ was used to line a damaged leat in Brecon, Wales



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CC lined channel at Cynrig Hatchery 4 years after installation

In January 2014, Concrete Canvas GCCM* (CC) was specified as an erosion protection liner for a leat at Cynrig Hatchery, near Brecon in Wales. The leat was used to direct overflow from the river Cynrig, a tributary of the River Usk. The overflow posed a risk to the hatchery's stocks of juvenile salmon. The leat had sustained damage and erosion over time; its original wood-lined face and an adjoining rock bed was leaking into a nearby reed run and threatened the hatchery's infrastructure. The site is currently owned and operated by Natural Resources Wales (NRW), who also carried out the works.

Upon close inspection, the condition of the leat was such that the decision was taken to excavate it out to profile first, and then line it with CC5™. Man-portable batched rolls would be used, due to the difficulty of getting heavy plant near the installation site. CC5™ was used to line 40 linear meters of channel with a varying profile at an average of approx. 5.5m wide and 1.5m deep.

The CC was laid transversely, with adjacent layers overlapped by 100mm before being screwed in place. The overlaps were not sealed, allowing natural weep paths to form and preventing the build-up of hydrostatic pressure behind the material. The leading edge at the mouth of the channel, beneath a footbridge, was anchor trenched into a poured concrete base. The material at the crest was also buried to provide a neat termination and prevent water ingress. Rocks of ecological concern were recovered and placed on top of the CC after installation, creating natural baffling. CC5™ had the flexibility to negotiate existing pipe work and a concrete base that was unearthed at the foot of the channel.

A total of 270m² of CC5™ was used in the project, which was completed by 3 NRW operatives in less than five hours.

*Geosynthetic Cementitious Composite Mat



Damage to a leat had caused leaks which threatened the hatchery



The site was excavated and graded, and batched rolls delivered



CC5™ was applied in transverse layers with a 100mm overlaps



CC was fixed using steel ground pegs and concrete masonry fixings



CC5™ was captured within anchor trenches and hydrated



Completed channel installation



The site was re-visited 4 years after the installation



CC successfully 'greening', blending in with its surroundings



CC is providing durable erosion control, successfully coping with varying flows



CC is preventing leaks and helping to protect the hatchery's juvenile salmon



Moss growth on CC's surface