CONCRETE CANVAS®

ENVIRONMENTAL DATA

Concrete Canvas® (CC) is part of a revolutionary new class of construction materials called Geosynthetic Cementitious Composite Mats (GCCMs). It is a flexible, concrete filled geotextile that hardens on hydration to form a thin, durable and water proof concrete layer. Essentially, it's *Concrete on a Roll*™.

Lower Carbon

CC is a carbon efficient material that offers significant embodied carbon reduction compared to traditional concrete methods. CC enables up to 150mm of poured concrete to be replaced with just 7mm for many erosion control and weed suppression applications. As a result, material savings of 95% can be achieved for a typical construction project.

In addition CC reduces the transportation requirement of construction work. A single pallet of 7mm thick CC (CCT1™) contains 125m^2 of concrete surfacing; the same coverage using poured concrete would require two 6m^3 ready-mix trucks. In other words, a single truck load of CC Bulk Rolls replaces a further 33 vehicle movements.

Global consultancy Ricardo Energy and Environment recently prepared an independent Life Cycle Assessment of the carbon impact for the Concrete Canvas CCT2™ material, which resulted in a **CO_2e that is 60% lower than the poured concrete alternative.** View the CC Carbon Report for further information.

Low Washout

CC traps dry concrete powder in a 3-dimensional fibre matrix. Testing based on BS8443 to indicate the effect of underwater setting, shows that CC loses only 3% by mass. By comparison, specialist underwater concretes typically lose between 10-15% whilst also requiring much larger initial volumes.

CC has been independently tested by the CTL Group laboratories in the US which measured leachates from CC both during hydration and post-set. All leachate levels were found to be below the levels set by the US Environmental Protection Agency (EPA).

Limited Alkaline Reserve

CC uses a specialist high early strength concrete with a limited alkaline reserve. Unlike most concretes, it is not classified as an irritant and is less damaging to the environment.

Environment Agency Use

CC was first specified for use by the Environment Agency (EA) Biodiversity team in 2010 on the Church Village Bypass Project. Benefits cited included 'surface roughness to provide diversity in the channel's morphology' and its ability to introduce 'sinuosity in the channel line'.

Since 2010 CC has been used in multiple installations on a case-by-case basis including projects for the Environment Agency (EA), Natural Resources Wales (NRW) and Scottish Environmental Protection Agency (SEPA).

Greening

Untreated CC will naturally 'green' over time as the textured top surface allows moss growth, whilst the fibre-reinforced concrete layer will prevent root-growing vegetation, which would otherwise restrict water flow and increase maintenance costs.

Manufacture

Concrete Canvas Ltd is ISO9001 certified; we pride ourselves on the responsible sourcing and production of our products. CC is BBA certified with a durability in excess of 120 years when used in erosion control applications. All materials are sourced to minimise environmental impact. For example, the PVC we use is a high grade phthalate free (no DOP) compound. This is designed to maximise the products life expectancy and minimise its impact on the environment.

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