

## Concrete Canvas® Required Equipment List

2102.01.US

Concrete Canvas® GCCM\* (CC) does not require specialist contractors for the majority of applications. Installation is quick and easy, provided that installation guidelines are followed and the appropriate equipment is used. Dust hazard. Wear appropriate PPE. Consult [CC SDS](#) document.

There are four simple steps to all CC installations which must be followed:  
**1. Deployment - 2. Fixing - 3. Hydration - 4. Jointing**

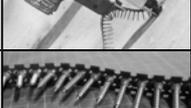
Equipment needs will vary from project to project but the following list is designed to be suitable for the majority of installs. Most of the equipment below is available for hire or purchase from Concrete Canvas Ltd.

1. DEPLOYMENT	<i>Bulk rolls of CC weigh approximately 1.5T. Appropriate plant for handling and deployment of heavy goods is required on site.</i>		<b>REQUIRED EQUIPMENT</b>		
	<b>Delivery</b>	A suitable means of offloading heavy goods from delivery vehicles is required, unless a hiab or tail-lift is requested in advance.	<b>2T rated forklift</b> <small>(or similar)</small>		<input checked="" type="checkbox"/>
	 <b>Deployment</b>	Bulk rolls of CC are typically deployed via plant mounted spreader beams (rated to 2T SWL) in a similar fashion to conventional geosynthetics.	<b>2T rated spreader beam</b>		<input checked="" type="checkbox"/>
	 <b>Cutting</b> <small>(Small Projects &lt; 1000ft<sup>2</sup>)</small>	CC can be cut using basic hand tools. The cement dust within the material will blunt blades so replaceable or disposable knives are recommended.	<b>Snap-off-blade utility knife</b>		<input checked="" type="checkbox"/>
	<b>OR</b> <b>Cutting</b> <small>(Larger Projects &gt; 1000ft<sup>2</sup>)</small>	For larger projects with numerous cuts required, a cutting power tool such as an angle grinder or disc cutter is recommended.	<b>Angle grinder / Disc Cutter</b> <small>(cordless recommended)</small>		<input checked="" type="checkbox"/>

2. FIXING	<i>Following deployment it is required to secure the CC to the substrate to ensure the material is not displaced during use. The following fixings can be used depending on the substrate.</i>		<b>REQUIRED EQUIPMENT</b>		
	<b>Soil Substrates</b>	CC should be fixed to the substrate along its length at regular intervals and through any overlaps using J-pegs. The leading edge of the CC (i.e. at the crest of a V-ditch) should be anchor trenched to a project specific depth, the excavation of which should form part of the subgrade preparation prior to install.	<b>Steel J-pegs</b> <small>(Galvanised or stainless steel recommended)</small>		<input checked="" type="checkbox"/>
	<b>OR</b>		<b>Lump hammer</b> <small>(or similar)</small>		<input checked="" type="checkbox"/>
<b>Concrete or Rock Substrates</b>	When remediating existing concrete infrastructure, CC should be fixed to the concrete substrate using a range of conventional masonry fixings, such as stainless steel self-tapping masonry bolts, concrete screw anchors or stainless steel fixings with washers to fix CC to other concrete surfaces. We recommend a minimum washer/head diameter of 15mm (0.6in) or use a clamping plate to prevent pull-through.	<b>Fixings</b> <small>(E.g. masonry bolts, nails, anchors or screws with &gt;15mm washer)</small>		<input checked="" type="checkbox"/>	

\*Geosynthetic Cementitious Composite Mat

<b>3. HYDRATION</b>	<i>Following deployment and fixing, it is required to hydrate CC. This must be proactively done and it is not advised to rely on hydration from rainfall. See the <a href="#">CC Hydration Guide</a>.</i>		<b>REQUIRED EQUIPMENT</b>		
	<b>Mains Water Supply</b>	A minimum volume of water equal to 50% of the material weight is required and an appropriate means of application.	<b>Mains water supply</b>		<input checked="" type="checkbox"/>
			<b>Adequate length hosing</b> <small>(spray nozzle recommended)</small>		<input checked="" type="checkbox"/>
	<b>Water Bowser</b>	A water bowser can be used as an alternative means of hydration if access to a mains water supply is unavailable.	<b>Water bowser</b> <small>(or similar alternative)</small>		<input checked="" type="checkbox"/>
			<b>Petrol/diesel water pump</b>		<input checked="" type="checkbox"/>
			<b>Adequate length hosing</b> <small>(spray nozzle recommended)</small>		<input checked="" type="checkbox"/>

<b>4. JOINTING</b>	<i>Typically CC layers are overlapped by 4 inches in the direction of water flow and jointed using any of the following options. Jointing methods are project specific and provide varying mechanical strengths and impermeability.</i>		<b>REQUIRED EQUIPMENT</b>		
	<b>Screws</b>	This joint is suitable for the majority of applications and is fast and simple to apply. It provides good mechanical strength but with limited impermeability. The screws should be applied at 4-7in spacing and 1.2-2in from the edge of the CC. See the <a href="#">CC User Guide: Jointing &amp; Fixing</a> .	<b>Auto-fed screwdriver</b> <small>(cordless recommended)</small>		<input checked="" type="checkbox"/>
			<b>Collated screws</b> <small>(stainless steel recommended)</small>		<input checked="" type="checkbox"/>
	<b>Screws &amp; Sealant</b>	For applications where improved impermeability is required, CC can be jointed with a CC approved adhesive sealant using a caulking gun. This is applied as a single 0.3in bead with the screws inserted through the sealant bead where possible to minimise leakage. Suitable CC approved adhesive sealants are available from Concrete Canvas Ltd.  7.8in screw spacing is suitable for most applications, 2in is recommended for bund lining.  See the <a href="#">CC User Guide: Jointing and Fixing</a> along with individual application user guides for further details.	<b>Caulking gun</b> <small>(powered unit recommended)</small>		<input checked="" type="checkbox"/>
			<b>Adhesive sealant cartridge</b> <small>(use a CC approved adhesive sealant)</small>		<input checked="" type="checkbox"/>
			<b>Auto-fed screwdriver</b> <small>(cordless recommended)</small>		<input checked="" type="checkbox"/>
			<b>Collated screws</b> <small>(stainless steel recommended)</small>		<input checked="" type="checkbox"/>
	<b>Thermal Bonding</b>	For applications where a high degree of impermeability is required. The joint can be formed using hand tools or using an automatic thermal welding machine. The latter allows joints to be formed at a rate of 1-1.5m/min (3.3-5ft/min). See the <a href="#">CC User Guide: Thermal Bonding</a> .	<b>Leister Twinny S or T</b> <small>(T provides data-logging capability)</small>		<input checked="" type="checkbox"/>