

Project Info



11 / 08 / 2014



CC5™ Bulk Rolls



900sqm



Transverse layers



PCK refinery,
Schwedt, Germany



Undisclosed



CC5™ used
to improve the
impermeability of an
extinguishing basin.



Completed installation

In August 2014, Concrete Canvas® GCCM* (CC) was used to line an extinguishing lake to improve impermeability. The original poured concrete structure had cracked and spalled, resulting in excessive water loss. Removing the incumbent basin and re-building it using poured concrete and form work was considered, however this would have been more time consuming and taken the basin out of operation for an extended period of time during construction.

Installation was carried out by an approved contractor (with no prior experience of installing CC) for PCK; a joint venture between BP, Rosneft, Shell, Eni and Total. The failing concrete was cleaned and mortar applied to any larger cracks so as to eliminate voids under the CC. An anchor trench was created on the shoulder of the basin so as to prevent water ingress underneath the CC and provide a neat termination to the cut edges. Bulk rolls of 5mm thick CC (CC5™) were delivered to site before being mounted onto a spreader beam hung from a Zoom Boom. The project was completed in sections with the two shorter sides being completed first. For these sections the CC was unrolled on the flat, batched to specific profile length and positioned into the basin by hand with alternating perpendicular overlaps created at the corners. This allowed for the CC to be unrolled across the width of the basin for the remaining two sections, starting at each end and progressing towards the middle where a drainage sump is located. Each section of CC was jointed and hydrated via the same procedure: the leading edge of the CC was fixed to the concrete substrate using 40mm wedge anchors at 2m intervals, the subsequent layer was positioned to overlap the previous by 100mm, then the construction team hydrated under the overlap and applied certificated sealing material. Hydration was achieved via an extinguishing hose connected to the main ring system on site.

900sqm of CC5™ were installed by 5 people in 4 days with some inclement weather. The client was very impressed with the result and subsequently instigated a bund lining trial as well as planning to line a 6000sqm extinguishing basin with CC. **A poured concrete solution would have taken at least one month to complete, meaning a time saving of over 75%.** Additionally CC needed far less labour and was more cost effective than a poured concrete solution.

*Geosynthetic Cementitious Composite Mat





Site before works began



Batching on the flat and a corner detail



Sealing under the overlap



The start of section 3



Hydration



The finished project