

Project Info

-  16 / 12 / 16
-  CCH5™ Bulk Rolls
-  4,850m²
-  Vertical layers
-  Kotka, Finland
-  Geosynt Oy (formerly Taretek Oy)
-  CCH5™ was used to protect a bund and prevent leakage to the sea and environment.


BALTIC TANK


TARETEK
 GEOSYNTEETIT



Completed installation in Kotka, Finland

In December 2016, CC Hydro™ (CCH) was used to line a secondary containment bund in Kotka, Finland. The aim of the project was to prevent contaminants reaching the sea and local environment in the event of an unforeseen leakage.

CCH was considered the only option for this installation due to it being easier, faster and more economical to install than traditional concrete methods. Additionally, temperatures at the time ranged between 0°C and 4°C during the day and dipped below 0° at night. These environmental conditions, along with regular snowfall, would have prevented work going ahead if conventional methods were used. However, CCH's unique properties, particularly its proven resistance to freeze-thaw conditions, made it perfect for the project.

CC Hydro™, a Geosynthetic Cementitious Composite Barrier (GCCB), is the world's first all-in-one armoured impermeable liner, created specifically for containment applications such as bund, lagoon and tank base lining. CCH combines the concrete filled geotextile technology of Concrete Canvas® with a highly impermeable, chemically resistant geomembrane liner. The liner incorporates a hi-visibility welding strip which allows joints to be thermally welded with a double-track or triple-track air channel for on-site testing. CCH removes the need for protective top cover, dramatically reducing installation times and simplifying logistics.

Ground works were carried out by Panu Building Oy the installation was carried out by the client, Baltic Tank Oy. Due to the requirement for specialist contractors for the thermal welding of the CC Hydro™, Geosynt Oy (formerly Taretek Oy) were brought in to carry out these works.



The project aim was to protect the local environment from contamination



Bund prior to works



Bund following ground preparation works



CCH5™ was deployed from an excavator mounted spreader beam



The CC was laid vertically down the bund slope



CCH thermally welded under makeshift canopy to keep material dry



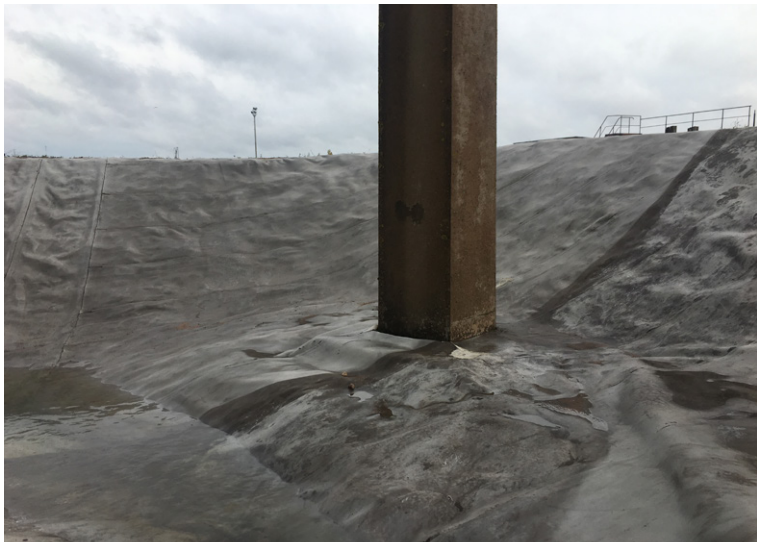
The team worked in very cold temperatures and snowfall



The completed bund installation



Steel bars and screws secured CCH edges against existing infrastructure



The CCH was cut to fit around existing infrastructure

Prior to installation, bulk rolls of CCH5™ were delivered to site, and the ground around the bund prepared by removing all vegetation. The CCH was then laid vertically down the slope of the bund, and layers thermally welded together using a Leister Twinny, using a mobile canopy to keep the working area dry during the welding and joint testing. At the crest, 200mm ground pegs were inserted at each overlap to secure the material within the anchor trenches. At the toe, the CC was terminated in a concrete anchor trench and the CC Hydro™ was terminated into existing infrastructure using steel clamping bars. Once the material had been installed, fixed, jointed and tested, hydration was carried out and repeated one hour later to ensure adequate hydration in the cold temperatures.

4,850m² of CCH5™ were installed in 15 work days by just 2-3 people, in cold weather and snowfall. The team worked an average of 10 hours a day. The project was very successful overall, and the client is already considering using CC Hydro™ for any similar projects in the future.