

Attenuation Tank Lining Case Study

Chelsea Football Club Youth Academy

The construction of Chelsea Football Club's Youth Academy required an attenuation tank of 117 cubic metres. The attenuation tank was formed from plastic blocks each @ 0.84m x 0.81m x 0.4m to form a finished tank of 34.83m x 8.40m x 0.40m.

This choice of Sustainable Urban Drainage System (SUDS) is now commonplace in the UK. Our company has been at the forefront of developing effective lining techniques.



The construction sequence was as follows:

- 1) Excavation of the area to site the tank (by others).
- 2) Installation of a geotextile underlay and an impermeable PE liner.
- 3) Placement of the blocks (by Geosynthetic Technology Staff)
- 4) Pulling of the lining up the sides of the tank, and undertaking pipe seals.
- 5) Placing of a PE liner and geotextile layer over the top of the tank.
- 6) Backfilling the tank (by others).



The lining system benefits from a bona fide 20-year Warranty and our Professional Indemnity insurance. The lining system has a working life in excess of 100-years.

Materials used: 300g/m² Geotextile / 0.50mm Excelastic PE Liner

Geosynthetic Technology Ltd lines attenuation 'block' tanks from all Manufacturers & Suppliers.

We also offer to prefabricate liners for installation by Groundworks Contractors.



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New Housing Site, Stowupland, Suffolk

The tank was 6m x 5.5m x 1.2m providing a gross volume of 39.6 cubic metres.

The attenuation blocks of 1m x 0.5m x 0.4m high were orientated 6 blocks x 11 blocks x 3 blocks high, ie 198 blocks @ 0.20 cubic metres each = 39.60 cubic metres.



The construction sequence was as follows:

- 1) Placement of the geotextile layer.
- 2) Installation of the prefabricated 1.00mm liner.
- 3) Placement of the 198 No blocks.
- 4) Sealing the liner to pipe inflow/outflow stub end penetrations. Sealing of the vent.
- 5) Placement of the prefabricated lid liner across the top of the tank, and its extrusion welding to the previously installed liner. This created a fully welded liner encasing all six sides of the tank area.
- 6) Completion of the installation of the remaining geotextile overlay to the outside of the tank.



Our work on site was completed in one day. This included installation of the (Contractor supplied) attenuation blocks. The Contractor subsequently joined the pipework runs to the sealed stub ends prepared by our company.

Materials used: 300g/m² Geotextile / 1.00mm Polypropylene Liner

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