

Case Study

The Fusion, Shoreditch, London E1 Basement Waterproofing

Main contractor: Galliard Homes

Sub-Contractor: Oaks Damp Proofing

Overview

This project was undertaken by the prestigious Galliard Homes to build 26 luxurious apartments with commercial space on the ground floor. Below ground there is a two level basement which is used as a gymnasium. Oaks Damp Proofing was commissioned to carry out the basement waterproofing works.

Methodology

As this project was a double level basement a continuous waterproofing system was specified and designed by Delta's Paul Callaghan CSSW to drain and manage any water ingress that may enter the structure below ground. Firstly a 'Type B' waterproofing concrete system was poured against the piles with a 'Type C' cavity drain membrane waterproofing system (Delta System) mechanically fixed to the walls of both levels and a floor membrane laid across the lower level basement slab. (Delta MS500 and Delta MS20) >

Before the system was applied an anti-lime treatment (Polysil TG500) was applied to the new concrete to help prevent any free lime and mineral salt ingress which could build up within the membrane cavity and drainage channels and block it, potentially causing problems.

As this below ground structure was such a large area two bespoke Delta packaged pump stations were placed within the slab on the lower level to collect the groundwater via a drainage channel placed within the perimeter of the slab and pump it to the main drainage system.



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Methodology continued

The Polysil is also used as a primer to ready the concrete for the application of a 'Type A' waterproofing product which was used in various areas of the construction. (NB 1 Grey slurry, an in depth migratory crystalline slurry system)

The NB 1 grey slurry was applied to the columns on the lower level approximately 1m high to mitigate any potential rising damp issues. >

It was also applied to the channels on the upper level and serviceable pipes were placed every 500mm through the intermediate slab so any water that may build up will drain down behind the cavity membrane on the lower level basement. >

The NB 1 grey was also used to waterproof the lift pits within the lower level basement, primed with the Polysil and a curved fillet installed at the wall/floor joint using Koster Repair Mortar Plus. >

The above complies with BS8102:2009 'Protection of below ground structures against water from the ground' as well the latest NHBC digest chapter 5.4 'Waterproofing of basements and other below ground structures'.

See next page for system components...



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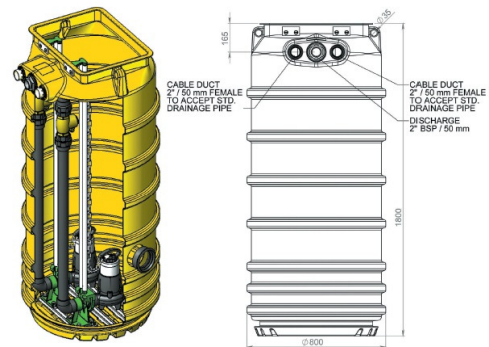
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System Components

- >Delta MS500 Wall membrane
- >Delta MS20 Floor membrane
- >Qwik-Seal Fixing Plugs
- >Double-Sided Tape
- >Delta Corner Strip Tape
- >Delta Drainage Channel



- >2x Bespoke V6 Groundwater Sump Pumps
800mm x 1800 size chambers with 2x V6
pumps in each, capable of pumping up to
approximately 10 metres



- >Koster Polysil TG500
- >Koster NB 1 Grey Slurry
- >Koster Repair Mortar Plus

