

Delta Membrane Systems Limited

Case study

1-9 Seymour Street

Overview

As with any basement construction, consideration to groundwater, soil type, precipitation, topography and ground conditions/site analysis needed be addressed. On 1-9 Seymour Street, Delta's approach was to carry out full and thorough check and to make a decision on what types of waterproofing would be best suited to this project, as no two projects are identical.

Waterproofing a basement ensures that the integrity of the structure is preserved whilst ensuring the usefulness of the same. All basements should be constructed to cope with groundwater levels up to the full retained height of the basement.

BS8102: 2009 sets out the scope and limitations for below ground structures, areas covered include:

- waterproofing barrier materials,
- waterproofing to construction joints within the RC frame construction,
- ensuring buildings are structurally integral with watertight construction,
- drained cavity construction,
- ground water assessment,
- ground water drainage; and
- associated risk assessments.

An initial and important consideration in the overall waterproofing strategy was to ensure that all construction joints were appropriately detailed and waterproofed using Hydrophylic waterstops. Through knowledge and experience Delta's advice was to incorporate 2 forms of waterproofing into the design. With over 2500sq.M to cover Delta Membrane Systems Limited's NB1 in-depth migratory crystalline slurry (a Type A System, a water barrier), and Delta MS500 and MS20 (a Type C System, cavity drain membrane system) would be a great solution.

Köster NB1 is a crystallizing mineral waterproofing slurry system which has a capillary plugging agent ideal for sealing against pressurized water (> 13 bar) and is watertight (>130m water head). Köster NB1 is a Type A waterproof system as set out in BS8102:2009. NB1 is suitable for new builds and in restoration properties. Köster NB 1 Grey is characterized by its excellent resistance to pressure and abrasion as well as excellent resistance to chemicals.

Köster NB1 was applied using a peristaltic pump which provided a uniform spraying application, this method saves considerable man hours and is a great way to ensure complete and even coverage.

Having applied a Type A waterproofing system a secondary Type C system offered a robust waterproofing design.