



Beautiful Basements Case Study

New Build Basement on Restricted Space Site – Oadby, Leicestershire

Clients

Waterproofing Designers

Mr. & Mrs. Doshi

Beautiful Basements

Background

In a very popular suburban area in Leicestershire a new, large domestic dwelling was proposed. The old house was demolished and the ground landscaped ready for the new building.

With two large houses either side, just 1m away from the new house build, the biggest challenge was ensuring both houses did not subside during the excavation and build.

Both the build method and structural design were tailored to ensure that both the neighbouring properties and build team were kept safe throughout.

Construction Method

After the ground was leveled, the first 1.2m was excavated and a continuous concrete ring beam was cast, forming the head of the walls, the outline of the basement and the beginning of the support for the neighbouring properties.

The second stage was to excavate and cast three ground beams spanning across the site, underpinning the ring beam at either end. A large steel beam was installed in each of the three ground beams at 45° and cast into the concrete to give the houses either side full support for the rest of the construction.

After the ground beams were cast the rest of the basement could be excavated, and the ring beam underpinned, section by section.

Once the original ring beam had been supported all the way around the main reinforced slab could be laid in waterproof concrete, finishing the build.

Waterproofing Method

Type A – Barrier protection

A hydrophilic, cementitious waterproofing slurry was applied to all construction joints throughout the underpinning & building process. All internal walls, when complete, were thoroughly cleaned had 2 coats of slurry applied.

Type B – Integral protection

The concrete for the main slab was poured with an additive in, making it waterproof concrete. All protrusions had an expanding water-bar and all joints treated with a hydrophilic slurry.

Type C – Cavity Drainage System

The internal walls and floor were lined with a cavity drainage membrane which was then linked to two sumps via a series of perimeter and underground channels

All waterproofing materials were supplied by Triton Systems Ltd.

Build Programme

3 1/2 months