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OVERVIEW

The scope of this project was incredibly interesting.

But not all feats in the world of engineering go upward. From historic cities to research facilities around the world, we've dug underground in order to create new experiences. These clever structures often incorporate natural light from above and showcase the rugged beauty of their subterranean settings utilising both design and the experience of the site.

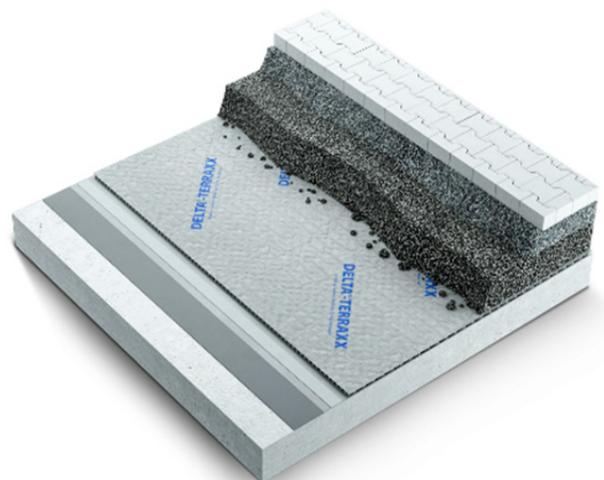
Located deep in the East Sussex countryside, the Hobbit House sits in beautiful countryside. The owners sought to create unique luxury rental accommodation comprising of 2 double en-suite bedrooms with open plan kitchen, dining and lounge area.

The owners sought to create a subterranean space which had the look and feel of a magical 'Hobbit Home' as if created by J. R. R. Tolkien himself.

Delta Registered Installers, Renlon Limited were commissioned to create a waterproofing design for a newly constructed subterranean House, buried into a bank in heart of the Rother Valley.

SYSTEM COMPONENTS

1. Koster Polysil TG500
2. Koster NB4000
3. Koster Glass Fibre Mesh
4. Delta Terraxx



METHODOLOGY

The key to successful waterproofing is a robust design incorporated at the earliest stage of a project.

Subterranean structures are required to meet the standards within BS 8102:2009, the Protection of Structures against Water from the Ground and Grade 3 habitable (A dry environment with no water penetration).

Renlon Limited proposed using a Delta System Type A waterproofing system.

The shell of the project was created using a Type B waterproof concrete system, followed by a secondary form of waterproofing incorporating the Delta Type A System.

Initially the Type B concrete was primed with Koster Polysil TG 500, an anti-lime inhibitor. When new concrete is introduced to structures, there is a risk of excess free lime leaching out during the curing process, an anti-lime inhibitor reduces this risk. Once cured an application of Koster NB 4000 was applied as a primary water proofer.

Koster NB 4000 is a Type A Barrier Waterproofing System, once applied but not dried Koster Glass Fibre Mesh was embedded in the first wet coat.

Koster NB 4000 is a hybrid waterproofing product that combines the properties of a polymer modified bitumen thick film sealant and a flexible mineral waterproofing slurry. Once cured, an additional second coat of Koster NB 4000 was applied.

Used as a green roof external drainage layer, Delta Terraxx was installed. Delta Terraxx is an extremely robust protection and drainage system that can be used in a range of applications for horizontal drainage which protects the primary Type A waterproofing System.

Delta Terraxx has an adhesive tape manufactured on one side to overlap and join the membrane offering quick and easy install.

Once the waterproofing system was successful applied and installed backfill was added.



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RESULTS

The Hobbit Home is completely protected against water ingress and the owners have a great addition to their portfolio, whilst rental occupants will be guaranteed a unique and magical stay.

The work was finished well, within time constraints and the client was extremely happy with the result.

Great work as always from Delta Registered Installers, Renlon Limited who throughout this project have shown a dedication to quality, authenticity and exceptional customer services.



TECHNICAL DRAWINGS

