SIKA AT WORK

PRIVATE RESIDENCE COUNTY DURHAM

CONCRETE: Sika® Watertight Concrete System

BUILDING TRUST

PRIVATE RESIDENCE COUNTY DURHAM

Downstairs lounge area looking out onto the river

The above ground part of the residence showing the main entrance

Project Description
A modern, futuristic self-build home in County Durham has recently been completed using the Sika® Watertight Concrete System. It is built into the hillside, close to a river.

Environmental considerations were high on the owner's list in the design of the development, with underfloor heating, LED lighting throughout and a Sika Sarnafil® green roof, which together have resulted in the house having a U value of below 0.15 W/m^2.

Project Requirements
A cost effective watertight solution was required for the lower floors that are built into the hillside. It had to adhere to BS 8102 Grade 3 (Habitable Space) - the British Standards Institute Code of Practice for protection of below ground structures against water from the ground.

Sika Solution
One of the reasons that the owner chose watertight concrete was that the 350m^2 house was to be built in a difficult location set into a hill on the side of a river. He was particularly looking for ease of construction in the wet, dirty conditions, and so chose the Sika® Watertight Concrete System. The Sika admixtures within the concrete mix work firstly by reducing the water cement ratio, producing a highly workable concrete that aids placement and compaction, and secondly, by blocking the remaining capillary pores. This produces an extremely effective watertight concrete solution which meets the requirements of BS 8102 Grade 3 (Habitable space).

Another reason that the owner chose the Sika Watertight Concrete System was that the overdig requirement was less compared to other systems, together with time saving on site and a guarantee of watertightness that comes with the system.

He said: 'We choose the Sika waterproof concreting system for this project because the Sika name is synonymous with providing quality waterproof concreting systems with a guarantee to back it up. Having looked at a number of other waterproofing solutions Sika was by far the most practical and cost effective solution for our project.'

The Sika® Watertight Concrete System is BBA approved, and has been constantly evolving throughout its long history, utilising the latest admixture technologies to provide continual improvement in performance and ease of use. Its 50 year successful track record and warranty gives the developer full confidence in the future integrity of the structure.

Around 200m^3 of Sika® Watertight Concrete was supplied to the project.

A 30 year proven track record in green roof construction convinced the owners to use a Sika Sarnafil membrane system to waterproof the flat roof. The system is resistant against biological and micro-organisms and root penetration. Fast and efficient application in most weather conditions were other key benefits of the Sika system.

Project Participants

Owner:	Private residence
Main Contractor:	Self Build
Sika Company:	Sika Limited

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