



# SIKA AT WORK

## FERNDOWN HOUSE, DEVON

CONCRETE: Hanson Silver Waterproof Concrete, powered by Sika Watertight Concrete Powder, used with SikaSwell® A 2010, SikaSwell S-2 joint sealant and Sika® Bentoshield® MAX LM

# FERNDOWN HOUSE, DEVON



**FERNDOWN HOUSE, IN THE SAUNTON SANDS AREA OF NORTH DEVON, IS A PROPERTY CONSTRUCTED TO OVERLOOK THE STUNNING VIEWS OF THE NORTH DEVON BIOSPHERE NATURE RESERVE.**



Ferndown House will be an eight-bedroom property with a swimming pool, cinema, gym and bar located in the basement.

The site clearance involved demolishing the previous house and removing sand to the depth of 4 m. 123 CFA (continuous flight auger) piles were then installed past bedrock depth at 50 m to provide a stable foundation for the build.

Phase 2 Planning and Development were contracted for the architecture of the project whilst the contractor for the works was Roger Huntley, who utilised a number of Sika waterproofing products in the build. Hanson Appledore plant supplied the Hanson Silver Waterproofing system which contains Sika® Watertight Concrete Powder.

#### **Project requirements**

In line with BS 8102:2022, two forms of waterproofing protection were required in the construction of the property's basement. As well as Hanson Silver Waterproofing concrete forming one of the layers of waterproof protection, Sika Bentoshield Max LM membrane was pre-applied to encase the waterproof concrete, forming an additional layer of waterproofing protection.

As the project is in a conservation area, the environmental impact of the build was of high priority.

Before the basement waterproofing commenced and during the build, Sika's waterproofing site technician for the South West, Kyle Singleton, was on hand to demonstrate the correct installation method of Sika Waterproofing materials, to enable contractors to swiftly install the product, without issue and with limited disturbance to the environment.

#### **Environmental impact**

Pre-construction planning involved an in-depth analysis of the environmental consequences of the build. The land for the project was dug out of a sand dune which needed to be put back. Carefully designed landscaping means the property will blend into its environment, incorporating flora that thrives in the nearby sand dunes.

To ensure minimal disruption for the area's wildlife, bat studies were undertaken which discovered the flight paths of the reserve's Pipistrelle bats. This was done to ensure the project avoided any interruption to their flight paths.

Bat boxes, bee bricks and papier-mâché swallow cups were also integrated into the property and outbuildings to welcome back as much wildlife as possible.

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## Sika solution

Hanson Concrete use Sika waterproofing admixtures to create their own brand of Waterproof Concrete and over 700 m<sup>3</sup> of Hanson Silver Waterproofing Concrete was used in the basement.

Once the maximum water/cement ratio of 0.45 has been achieved, any remaining capillaries within the hardened concrete are blocked by the Sika Watertight Concrete Powder additive, providing an impermeable waterproof concrete.

To avoid leaks through construction joints, a joint sealant was required. Sika's durable and cost-effective answer for this is Sikaswell<sup>®</sup> A-2010 and Sikaswell S-2 joint sealant system. These waterbar products swell in contact with water to seal the joint and prevent any water ingress.

Sika Watertight Concrete Powder and Sikaswell construction joint sealant system are the most widely used Watertight Concrete system in the UK and are both BBA approved.

Additionally, 650 m<sup>2</sup> of Sika<sup>®</sup> Bentoshield<sup>®</sup> MAX LM, which is tested and approved to BS EN 1928 by the BBA, was supplied to the project.

Developed as a fully-bonded, self-healing waterproof system, Sika<sup>®</sup> Bentoshield<sup>®</sup> MAX LM and associated ancillaries act as a shield to harsh environments.

Specifically designed for use in underground structures, the Sika<sup>®</sup> Bentoshield<sup>®</sup> MAX LM membrane contains specially formulated polymers to enhance performance in contaminated land with an increased salt concentration.

The high salinity of the ground on this project meant that this was an ideal solution for the contractor.

## Making a complicated project straight forward

Roger Huntley, the contractor for Ferndown House, commented: **"THE KNOWLEDGE AND ABILITY OF SIKA'S SPECIFICATION AND SITE ASSESSMENT TEAM, TO MAKE A COMPLEX PROJECT STRAIGHT FORWARD WITH SIMPLE DETAILING, WAS INVALUABLE ON THIS BUILD."**



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