SIKA AT WORK
KEEBLE COLLEGE, UNIVERSITY OF OXFORD

WATERPROOFING: Sika® Watertight Concrete, SikaSwell® Hydrophillic Strips, Sika® HD20 membrane, Sika® Cavity Drainage System

BUILDING TRUST

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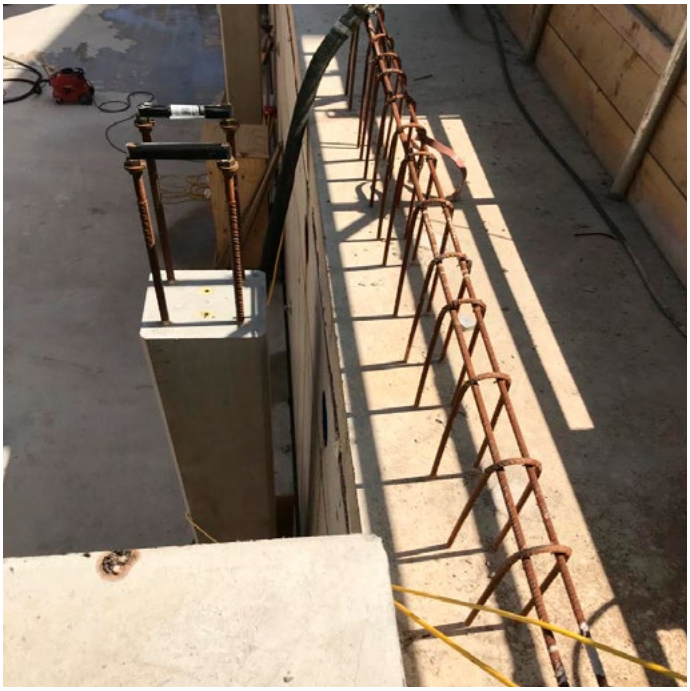

The Project
With an acclaimed biochemistry building constructed in 2008, the University of Oxford appointed main contractor, Laing O'Rourke, to build the £73m phase two expansion of the facility in March 2019.

The institution required extra space for the faculty and the new building would house very specialised equipment.

With respect to a partnership agreement with the University of Oxford spanning 20 years, it was important for Laing O'Rourke to select the right partner for the project.

The Requirements
Situated at the very centre of the campus, the 13,411 m^2 scheme came with many logistical challenges; transporting plant machinery and materials, pedestrian access, noise restrictions and ongoing clean-up requirements.

The new biochemistry building needed to be linked to an existing building and therefore tie into the previously-installed system. The new basement, with a 2,000 sqm footprint, required two types of protection to reduce the risk of water ingress; Sika® Watertight Concrete (Type A) and a Sika® Cavity Drainage System (Type C).

With a requirement to waterproof the base slab and adjoining walls too, the whole project totalled 3,800 sqm.

The Solution
A complex project which required a raft of technical support, Sika worked closely with Laing O'Rourke to provide a holistic concrete and waterproofing solution.

Following the basement excavation and installation of approximately 123 separate 750mm diameter piles, Sika added watertight concrete on the capping beam.

Concrete fibres were specified for the screed, covering the Sika® HD20 membrane on the slab, to provide reinforcement and prevent cracking. The watertight concrete system was completed using SikaSwell® Hydrophillic Strips to seal the construction joints.

Transportation and delivery of project materials was coordinated to minimise disruption on campus, where hundreds of people were present at all times of the day.

Robert Dennis, UK business development manager at Sika, said: "The scheme at the heart of Oxford University saw us provide on-site support, technical drawings and bespoke fibre calculations in order to support Laing O'Rourke throughout the project.

"Whilst from the outset it could be perceived as a simple basement waterproofing project, when it's situated at the epicentre of a bustling campus, the complexities were amplified."

For further information call 0800 292 2572.

SIKA LIMITED
Head Office
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
United Kingdom

Contact
Phone +44 1707 394444
Fax +44 1707 329129
Email enquiries@uk.sika.com
www.sika.co.uk
@SikaLimited

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