



Surrey University Paramedic Training Centre Waterproofing an Undercroft for a University Medical Facility

The Project

With an emphasis on practical elements, the exciting BSc Paramedic Science course at the [University of Surrey](#) needed a new, well-equipped training facility for its students at the Surrey Research Park, Guildford.

Having identified a large existing undercroft for the purpose, the University consulted with [Scott Brownrigg Architects](#), as well as the Newton Technical team and [Advanced Basements](#) in order to create a new, dry space.

The Solution

The extensive undercroft area was first separated into three large rooms, based on what each room was going to be used for. These were defined as:

1. A live environment Paramedic Training room, with an existing concrete floor, concrete retaining walls, and blockwork internal walls.
2. A storage area, requiring a new insulated floor, and with concrete retaining walls and blockwork internal walls.
3. A plant room, requiring full internal waterproofing to the walls and floor.

Considering that the existing structure was already quite robust, Newton and Advanced recommended an internal Type C [Newton CDM System](#).

This method of waterproofing is the most failsafe method, using membranes to capture the water, and sump chambers and pumps to collect and remove it. The pumps are also supported by a battery backup system for total security.

The Result

Advanced Basements acted as the specialist waterproofing contractor and the waterproofing design specialist on this project, working alongside the architect and client to design the system, before providing a high quality installation.

Furthermore, thanks to their early involvement, Advanced also took design liability for the project and guaranteed the installation for the client.



The reinforced concrete walls and internal blockwork



The concrete walls had minor water ingress already



"We were really happy to be able to work closely with Newton Waterproofing throughout the project as they share our values with regards to considered detailing, robust protection and quality.

With the Architect involved from the start, we are confident we have installed a reliable membrane system that will provide ongoing protection for many years to come."

Nick Wells
Advanced Basements
Newton Specialist Basement Contractor

The Products

CDM SYSTEM

The most reliable waterproofing solution for any habitable space below ground combination, the Newton CDM System combines our decades of waterproofing experience with the highest quality, BBA certified cavity drain membranes from [Newton System 500](#), bespoke sump and pump configurations, backup systems, telemetry and ancillary options.

508

BBA certified, high quality cavity drain membranes as part of the CDM System, manufactured from 100% recycled HDPE.

FIBRAN XPS 500-C

50mm, closed-cell extruded polystyrene insulation board, exclusive to Newton and used to form a 50mm spacer alongside Newton Basedrain.

BASEDRAIN

A range of products that collectively receive and drain water from the cavity drain membranes and direct it to the point of discharge.

TITAN-PRO

A packaged pumping system specifically designed for use with the Newton CDM System to collect and discharge water.

NP400 PUMPS

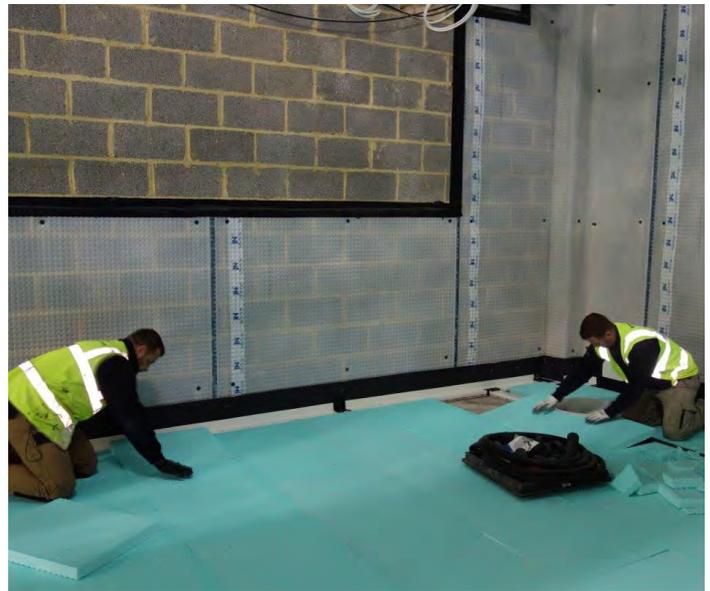
A high performance pump available in manual or automatic versions to remove clean water from the Newton CDM System.

VICTRON INVERTER

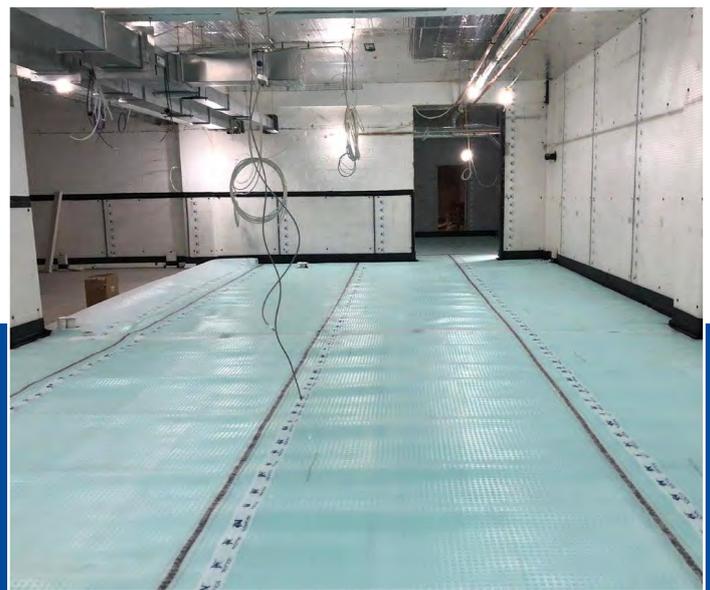
Advanced backup units that provide solutions to ensure that Newton pumps continue pumping during power interruption.



Newton 508 was installed to all of the walls by Advanced Preservations



The floor build-up included Newton closed-cell insulation board



The final system created a completely dry internal space

Newton Specialist Basement Contractors

Newton recommends that our systems are installed by one of our nationwide network of Newton Specialist Basement Contractors (NSBCs). Trained by Newton, NSBCs offer a full guarantee on the design and installation, and can act as Waterproofing Design Specialists.

