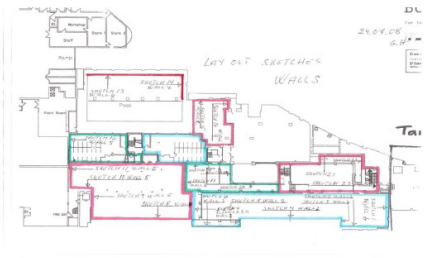
Tel: +47 97466505
Email: henning@tritonnorway.com

Park West, UK
Case Study



Industries:
Retail and real-estate

Regions:
UK and Ireland

Summary`:
- A 250sqm trial installation in London`s largest residential building.
- Heavy water ingress with high hydraulic pressure on the basement walls and floor.
- The walls were deteriorated to such a degree that a concrete slab was needed on the walls for anodes placements.

Timings:
- The design of the MPS® (AOP) system took 1 day.
- The installation took 7 days after the concrete slab was cured
- The new slab remained dry permanently after being put on.

Success Criteria:
- The reinforced concrete basement is a capillary structure.
- The structure is fully below the water table.
- The new slab covered the deteriorated brick wall and stopped a large amounts of mechanical cracks.
- The concrete floor was perfect for the installation of the MPS system.

Control units:
- 1 permanent control unit was installed.
- 1 permanent junction box was fitted.

Problem

Park West is London`s largest residential building with a massive basement of several thousand sqm. The asset management hired Cardoe Martin Burr Limited, which is an independent multi-disciplined practice providing Building Surveying and Property Consultancy services.
Cardoe Martin contacted us to see if our system could stop the heavy water ingress in the basement. The asset management wanted to one day be able to utilize the basement for whatever they decide in the future.
A large amounts of mechanical cracks were found and part of the wall were right out deteriorated. There were water running out of walls and on the floor. The asset management wanted a trial installation to see what could be done and then later decide if they want a full scale installation. It all depended on if they come to need the basement area in the future.
The location of Park West on Edgware road made it impossible to consider excavations and repair from outside of the building.
It would also have proven a lot more expensive and not really dealt with the actual issue of capillary suction through a capillary structure.

Challenges

The water was coming in from all sides of the basement and this made it difficult to keep water out of the way for our installation.

Tel: +47 97466505
Email: henning@tritonnorway.com

We made a trench to guide the water coming from outside of the trial area, to the other ned of the basement.
This was to ensure that the target area would not be compromised by water coming from elsewhere.
This is how much water ingress this basement had.
The target floor was solid concrete and perfect for the MPS installation and was done in regular maner.
The target wall was heavily deteriorated and water came running down its face.
It was a brick wall, but a waterproofing company some 15 years earlier had tried to cover it with a concrete slab without success.
In our design decisions, we felt we needed to add a 50mm concrete slab on the wall as it was completely deteriorated.
We placed the anode lines in the new slab. We did not repair or inject any of the mechanical cracks behind the new slab.

Contract

The asset management signed for a trial installation of 250 sqm.
They had an option of further works if and when they needed to utilize the basement.
To date they have not considered using the basement as it has not been in use for 40 years.

Outcome

The floor had undergone an ordinary MPS installation and reached 89% RH within 8 weeks.
The wall had a new concrete slab and was dry after the concrete had cured.
Without the MPS system, the concrete slab would have been saturated within 1 week.
The humidity test we did after 3 months showed a relative humidity of 90% in the slab.
We drilled a 18mm hole about 30cm into the wall through the slab and the water flushed several meters into the room.
Thus shows that this building is experiencing massive hydraulic water pressure and the MPS can withstand it hands down.
After 12 months we made another RH test and the wall and floor was still below dry paint requirement of 92%RH, as it still showed 90%RH. Despite all the cracks behind the new 50mm slab, it showed that such a small concrete membrane with MPS, is sufficient to stop this high water pressure.

AOP system

Hydrotech the original company terminated in 2011, Triton Norway remains as the authority on AOP as the system was developed by the Triton Norway team. The latest generation of AOP is now called AOP (Advanced Osmotic Puls). The AOP System is a revolutionary technology based on an accepted theory of electro osmosis. It gives new life to existing brick, masonry and concrete structures avoiding expensive reconstruction and has a broad field of application in new concrete structures. The "state of the art" methods in use in the building industry today can be characterised as temporary solutions to a problem for which there is no apparent cost effective permanent solution. The AOP System provides a permanent solution. The AOP System is utilised for transporting water encapsulated within the capillaries out of structures, as well as permanently preventing the penetration of water into structures. A control unit produces a low voltage electrical charge, which is passed through electrodes in the form of probes or wires strategically placed within portions of the walls and/or floors which are wet.