

Rudding Park Hotel & Spa Development

Harrogate, United Kingdom



Rudding Park Hotel & Spa
© Karakusevic Carson Architects and Higgins Construction

Type of building:
Hotel

Architect:

Engineers/ Specialist Planners:
Adept Consulting Engineers

Building contractor:
Henry Boot & Howard Civil
Engineering

Completion:
2017

Project link:
<https://www.ruddingpark.co.uk/>

The works consisted of the construction of a new spa and hotel extension to the Grade 1 listed historic Rudding Park Hotel nestled within an 18th century Repton landscape.

The new facility included a 17m swimming pool; hydrotherapy suite; thermal rooms; treatment complex; restaurant and bar; and a feature rooftop garden.

A range of MAX FRANK products were specified as part of the overall waterproofing strategy, which utilised all three BS 8102 types of protection (A, B & C):

Fradiflex® Metal Waterstop

Fradiflex® coated metal waterstop - was detailed in slab and wall joints, with & without kickers, and provided effective sealing of non-movement construction cold joints and was not affected by wet weather conditions.

Intec® resin injection hose - was specified as a backup sealing solution. It was called upon in one of the swimming pools when a small leak was detected during water tightness tests. The leak was caused by honeycombing within the concrete due to the congested reinforcement which made it difficult for the FRC contractor to achieve adequate compaction and subsequently provided a path for the water to avoid the Fradiflex® waterstop.

The leak was quickly and easily repaired by injecting sealing resin through the Intec® hose to fill voids within the wall. This avoided costly invasive remedial work and removal of the pool's filtration systems.

Synko-Flex® Non-Expanding Waterstop

Synko-Flex® non-swelling waterstop was employed to seal the pool overflow channel joints and pipe penetrations, where traditional

Rudding Park Hotel & Spa Development

Harrogate, United Kingdom



hydrophilic products would not have been suitable due the expansive forces exerted when swelling occurs.

Zemdrain® Controlled Permeability Formwork Liner (CPF)

Zemdrain® CPF - was proposed by MAX FRANK as a solution for preventing surface defects (large blowholes/honeycombing) in the pool tank walls. It successfully eliminated the voids and contributed to the overall watertightness of the structure.

Shearail® Punching Shear Reinforcement

Shearail® is a pre-fabricated punching shear reinforcement system for flat, piled and post-tensioned slabs. It is designed to increase construction speed, improve build quality and reduce dependency on skilled labour - significantly reducing on-site costs.

Shearail® was requested and used in a normal application process around the columns. By using this product it enables site work to be carried out far more effectively and efficiently than traditional loose links, making it ideal for complex project management.

Shearail® is the only punching shear system approved by both CARES and BBA and provides many advantages over links - it is quicker to fit, easier to check and a better end anchorage is gained when using shear studs as their full strength is developed straight away.

Stabox® Rebar Connection System

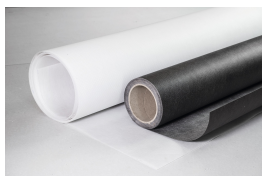
Stabox® Type 'F' (provided by MAX FRANK Group) pull-out continuity bar with integral metal waterstop - was used to create a temporary opening with the basement wall to allow entry for plant and equipment during the build, and provide a watertight joint when the structure was closed toward the end of the project by incorporating a Fradiflex® waterstop element into the recess box, creating a more tenuous path to resist moisture penetration.

Rudding Park Hotel & Spa Development

Harrogate, United Kingdom



Products used:



CPF liner Zemdrain®



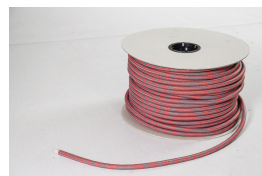
Continuity strip Stabox®



Punching shear reinforcement
Shearail®



Metal waterstop Fradiflex®



Injection hose system Intec®



© Karakusevic Carson Architects and Higgins Construction



© Karakusevic Carson Architects and Higgins Construction



© Karakusevic Carson Architects and Higgins Construction