

Airport Construction in Ireland Successfully Implements Waterproofing Solution

Cork Airport Ireland utilises GCP Technologies' BITUTHENE® and PREPRUFE® to protect against water, damp and gas.



Project	Cork Airport Ireland
Client	Aer Rianta
Main Contractor	Rohcon Ltd
Subcontractor/Applicator	Radon Ireland
Structural Engineers	Jacobs International Limited
GCP Solutions	BITUTHENE® waterproofing, PREPRUFE® waterproofing, SERVIPAK® protection boards, SERVITITE® waterstops

Project

A new terminal building was being built at Cork Airport, to increase its flow of passengers. The goal of the new terminal was to increase the capacity of of passengers from holding 1.1 million people to 3 million passengers a year--and eventually to expand to support 5 million passengers a year.

In addition to the terminal building, airport construction also included the building of a new multi storey car park, capable of holding 600 cars with access via the airport terminal, as well as a 3,250 space surface car park. Three passenger air bridges were constructed as well as a new fire station. The project worth €144.3 Million, expanded the airport to 28,300 m3, and consisted of 32 new check-in desks.

Challenge



The airport construction in Ireland required below ground waterproofing of the basement area, specifically the walls as well as reinforced concrete columns. Situated on a sloping site, the engineers designed below grade drainage under the slab, as it was not a monolithic basement. Therefore, a membrane suitable for application in damp areas was also called for.

A network of waterstops was also required to provide resistance against hydrostatic pressure, which would be suitable for use as an internally cast waterstop.

Solution

To complete the airport construction in Ireland to specifications, BITUTHENE®8000 self-adhesive waterproofing membrane was applied to the basement walls and on columns, providing protection against the effects of water, damp and gas penetration. SERVIPAK® protection boards were applied to the walls to permanently protect the BITUTHENE® membrane.

PREPRUFE®300R pre-applied waterproofing was applied beneath the slab due to its unique ability to adhere to poured concrete, preventing water migration between the structure and membrane. It also provided a high performance vapour barrier and radon gas protection for all below grade construction.

Finally, a network of waterstops provided a comprehensive waterproofing system. SERVITITE® internal waterstops and junctions provided resistance against high hydrostatic pressure, and prevented the ingress of water and moisture through concrete expansion joints.

In addition, GCP provided extensive on-site support and training in the correct installation of the waterproofing membranes and waterstops.

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