

European Retail Complex Relies on PREPRUFE® Waterproofing

GCP protect one of the area's largest retail projects from the roof to the vapor barriers below grade



Project	White City Shopping Centre
Developer	Westfield Group
Subcontractor	PC Harrington Contractors Limited
Structural/ Consulting Engineer	Robert Bird Group
GCP Solutions	PREPRUFE® pre-applied waterproofing membrane, BITUTHENE® waterproofing membrane, PROCOR® liquid waterproofing, ADPRUFE® 100 liquid admixture

Project

Constructing a showcase retail space

White City Shopping Centre is a flagship commercial building developed and constructed in Central London.

Completed at a cost of approximately £1.6 billion, the centre covers an area of 46 acres and is one of the largest retail developments in Europe. The landmark includes a high-tech 14-screen cinema complex, four anchor stores as well as 265 specialty shops. A new car park with 4,500 spaces, as well as a new tube station and bus terminals was also developed to service the retail architecture development.

"The centre covers an area of 46 acres and is one of the largest retail developments in Europe."

Meeting stringent waterproofing standards

GCP Applied Technologies provided waterproofing to several areas of the commercial building development: the Eastern Area, the LUL box and Central Zone.

The main challenge in the Eastern Area was acquiring a membrane suitable for application on a polystyrene void former. The LUL box consisted of a grade 3-basement area, consisting of a watertight concrete box to new railway sidings.

The retail architecture design required quick roof waterproofing to enable old sidings to be removed and the Central Zone to be built. The Central Zone involved the application of membranes suitable for use during mid-winter to a grade 3 basement. Due to the tight construction deadlines of the shopping centre, the selected membrane would have to be able to contend with construction during difficult weather conditions.

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Finding an innovative novel waterproofing solution

PREPRUFE® and BITUTHENE® waterproofing membranes were specified for the Eastern Area retail architecture. PREPRUFE® pre-applied waterproofing membrane consists of a proprietary adhesive technology that ensures the risk of leaks in the structure is substantially reduced due to its unique ability to adhere to poured concrete. BITUTHENE®8000, a self-adhesive membrane applied to the commercial building basement walls, provides protection against the effects of water, damp, and gas penetration.

PREPRUFE®300R was applied to the basement slab area, with BITUTHENE®8000 and PREPRUFE®160R applied to the basement walls. Both products prevented water migration between the structure and membrane.

PREPRUFE®300R and 160R membranes were also specified on the walls of the LUL box, with PROCOR® Deck System 4R applied to the roof. One of PROCOR®'s benefits centers around its ability to provide quick application by spray or trowel.

PREPRUFE®300R was again applied beneath the slab in the Central Zone, with ADPRUFE®100 used in the pile caps, as seepage into the pile caps would not affect the waterproof concrete in the event of flooding during excavation.

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