

## Gatwick Airport Multi-Storey Car Park 6 (MSPC6) Rehabilitation Works

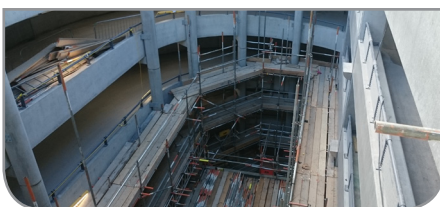
**Ultimate Client**  
Gatwick Airports Limited

**Principal Contractor**  
Kier Construction

**Works Commenced**  
February 2016

**Works Completed**  
March 2017

**Value**  
£6,450,000



Gatwick Airport's Multi-Storey Car Park 6 is a six storey car park providing approximately 1300 short term car parking spaces for vehicles, located adjacent to the North Terminal.

The car park was constructed in 2010 - 2011. Since its completion, several faults had developed, with significant primary elements of the structure showing signs of cracking/distress.

Freyssinet was appointed by Kier Construction to undertake structural repairs to the car park. Works undertaken included:

- Installation of temporary works for hydro-demolition
- Hydro-demolition
- Erecting of temporary scaffold enclosures
- Concrete repairs, injection and coatings
- Installation of corbels and structural strengthening
- Concrete deck and tarmac surface planning
- Decking (waterproofing)

The works required the removal of more than 2000 areas of concrete deck planks, to enable the installation of additional steel reinforcement. Freyssinet's in-house hydro-demolition team Aquaforce undertook the removal of concrete sections using both robotic and hand lance hydro-demolition operations, working at pressures up to 1150 bar.

The Freyssinet team employed the innovative use of concrete removal hoppers, which enabled for greater control of water run off to a significant level. Bespoke mechanisms for the control of spray and reaction materials were also used. In addition, support was given to the client with the supply, maintenance and monitoring of water treatment units to pH rectify and remove suspended solids from the waste waters to an acceptable level prior to discharge.

Freyssinet employed a number of strengthening methods, including stitch jointing and corbel installation, as well as undertaking significant concrete repairs, removal of existing deck coverings, installation of new deck coatings, provision of soffit coatings and upstand wall coatings with associated barrier improvements and anti-carbonation coating throughout the car park.

One of Freyssinet's innovative strengthening solutions was utilised during the works, as Ultra High Strength Concrete in precast form was applied, with associated repairs to stairs and ramps. Finally, effective waterproof coatings were applied, providing ultimate protection to the refurbishments, much to the praise of the ultimate client, Gatwick Airports Limited.

The team worked to an extremely tight programme to ensure the lower floors of the car park could be handed back to the ultimate client in order for it to be utilised for paying customers during the peak summer months.