

CASE STUDY

Full Car Park Refurbishment

MAKERS

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PROJECT

Mailbox MSCP, Birmingham

STRUCTURE

Multi-storey Car Park

CLIENT

Brockton Capital LLP

CONTRACT



The Mailbox is a destination shopping complex in the heart of the City of Birmingham, formerly known as the Royal Mail sorting office, this iconic structure was transformed and unveiled in the year 2000 and contains 2 hotels, 100,000 sq ft of retail space and is home to the BBC, Everyman Cinema and a host of other businesses, such as Harvey Nichols, Hugo Boss and Paul Smith as well as many other retailers and restaurants.

Following a comprehensive testing and investigation process, Makers were selected to provide their expertise and approach to the refurbishment of this Iconic structure.

This was a complex and highly sensitive project with working hours arranged around BBC recording schedules to eliminate any disruption to the long running Archers broadcasts which are recorded live.

The car park is an in situ concrete slab structure, with Lower Ground, Ground and Level 1 parking decks located beneath the shopping complex. It was suffering from corrosion to the concrete soffits and decks and the steel structural beams were showing signs of delamination of their intumescent coating.

Considering its surrounding neighbours and the volume of concrete repairs required to decks and soffits, a Hydro demolition process was used for the break out of concrete, providing a much quieter process than heavy duty equipment that is traditionally used. This reduced the acoustic impact on the surrounding areas with no vibration through the structure.

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Before



Before

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All work areas were contained in Heras fencing, but to prevent dust escaping into the environment Air Scrubbers were installed, sucking out the air from within the sealed areas and filtrating the clean air out, this was to prevent dust particles being airborne as nearby clients had employees with asthma.

The works were carried out in 3 phases with initial works starting on deck level 1. The repair areas were marked up and the hydro demolition process was carried out to the deck substrate removing the defective concrete and corroded steel, with new reinforcement steel spliced. Cathodic protection using galvanic anodes were installed to the steels and the concrete was reinstated using the Fosroc LA55 repair mortar. After the concrete repairs had cured, a Migrating Corrosion Inhibitor was applied to the entire concrete deck area.

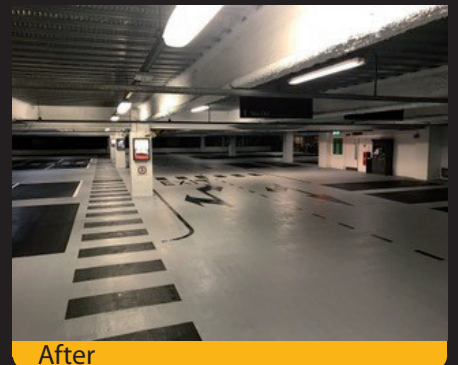
Prior to installing the waterproofing system, the initial testing determined that the concrete substrate was in a poor condition and required case hardening to improve the substrate adhesion. Following the application of the case hardening, the new Triflex system was installed.



The concrete soffit to the Lower Ground level was also suffering from corrosive steels and spalling concrete. The hydro demolition process was again used to break out the defective concrete and galvanic anodes were installed to the steels. Due to the large extent of the soffit repairs, the repairs were sprayed in using Weber DS. Repairs were also carried out to the steel beams cementitious fire protection that had been damaged during the hydro demolition process.

After all repairs had been reinstated, the soffits were jet washed and the structural steelwork was prepared to receive the new anti-carbonation paint coating. Armistead paint coatings were applied to the soffits, beams, walls and columns to provide the required protection and improve the aesthetics of the lower ground level.

During the refurbishment of the car park, a new operator was appointed in Q-Park. Although phase I of the project had been completed. Makers installed Q-Parks preferred layout design and then adopted and modified works to phase I to create a sympathetic overall design. The box bay layout and Q-Parks distinctive directional details were adopted.



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