

Norwich's Castle Mall refurbished

Makers finishes retail parking upgrade on time and on schedule

The Castle Mall car park in Norwich has been refurbished by Makers Construction. The 710-space car park, which was built in 1989, is a reinforced concrete structure that has been protected over the years with a range of surface treatments.

Epoxy resin-based coatings had originally been applied to the eight parking decks – including driving aisles and ramps – to protect against the ingress of contaminants such as de-icing salts brought in by vehicles.

The walls, columns and soffits, meanwhile, have been decorated with a proprietary masonry paint to improve lighting levels for the car park's customers.

When a new owner, Infrared Retail, took over the site it reverted to its original name, Castle Mall, and underwent a programme of concrete repairs and re-waterproofing.

The new owners initiated a programme of planned preventative maintenance (PPM) and, after a competitive tender process, Makers was appointed to deliver a scheme of works that included the removal of all existing coatings from the concrete parking decks followed by concrete repairs, corrosion



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management and the re-application of a deck waterproofing system throughout, to be applied in contrasting colours.

Makers business development manager, Graeme Middleton, said: "The structure's asset managers had identified that the original protective coatings applied to the deck surfaces had reached the end of serviceable life. As a result, surface defects were beginning to develop and spread predominantly, evident through localised spalling of the concrete deck surfaces.

"A comprehensive concrete

the presence of salt-chlorides were identified within the 'low to medium' risk category."

The existing deck coatings were removed from all 18,000m² of concrete floors to enable a visual appraisal and hammer test to each parking deck.

A nominal volume of repair was required followed by the application of Sika Ferrogard 903, a migratory corrosion inhibitor, to control and reduce corrosion rates. A Sika non-slip protective car park decking system was applied throughout in contrasting colours: dark grey for traffic aisles and ramps, blue for parking bays and light grey for pedestrian walkways.

"Castle Mall is an exceptionally busy shoppers car park," said Middleton. "In order to keep it fully operational during the 26-week refurbishment programme, Makers had to implement an Innovative traffic management system ensuring access could be retained whilst protecting both our workforce and the car park's customers. Works to the up/down ramps had to be done out of hours with rapid-setting materials that would allow them to be put back in service the following day so the car park could continue to be used without disruption to customers."

The project was completed for £547,988, which was within the budget, and to programme.



The upgraded parking area

condition survey and testing identified that, although there was not widespread damage to the car park's decks currently, if left untreated, there could be a significant development and spread of defects leading to a substantial uplift in future refurbishment costs. Specifically,