

CASE
STUDY

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MULTI STOREY CAR PARK
EASTBOURNE

ARNDALE CENTRE, EASTBOURNE

Area
8,000m²

Systems
Triflex ProPark®

Authorised Contractor
Mike Thelwell Flooring

Scope of work
Provide a waterproofing and
surfacing solution for the two new
car park decks

The challenge

In June 2018, Triflex were invited to provide a project specification for a waterproofing and surfacing solution to the recently extended multi storey car park at the Arndale Centre, in Eastbourne.

The architects and project engineers had concerns over the potential for cracking to the concrete slab and wanted to ensure that a car park waterproofing and surfacing solution would be able to cope with any crack or movement with the structure. Additionally, the solution needed to be hard wearing, durable and would need to cause as little disruption as possible to the shopping centre and its visitors.

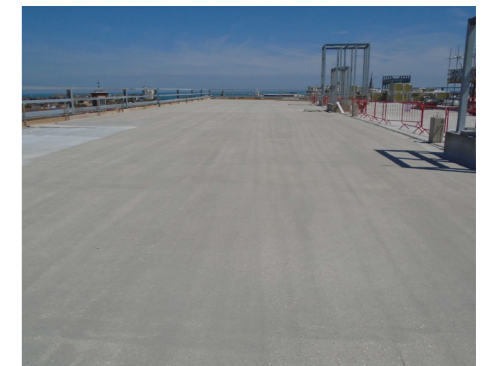
The extension included two new car park decks which had been constructed on top of the existing shopping centre and 6 parking levels, the construction consisted of a steel frame with a permanent metal deck shutter which was filled with reinforced concrete.

Like most concrete which is to be overlaid with a waterproofing solution, shot blasting is required to provide a key for adhesion and to achieve a smooth and even surface. Shot blasting also removes the weakest surface element of the concrete, so that when the system is laid it is bonded directly onto the strongest part of the concrete.

When the weakest part of the surface is removed through shot blasting, it exposes the small capillary holes within the concrete. When these capillary holes are exposed to warm temperatures, trapped air and moisture vapour within the concrete heat up, expand and rise to the surface. This process is known as outgassing.

In some cases, when concrete which is outgassing is overlaid pinholes and blisters can appear in the surfacing solution.

This was a primary consideration when specifying the appropriate waterproofing and surfacing solution at the Arndale Centre.





The solution

Prior to installation, the Triflex Technical Team and Authorised Contractors Mike Thelwell Flooring, conducted a range of tests to ensure that the best possible solution was specified. Firstly, the team conducted cohesive strength tests, this involved applying the proposed Triflex primers and waterproofing and surfacing system to the substrate. A metal disk known as a dolly is then adhered to it and removed under force, identifying the weakest element of the build-up. These tests helped the Technical Team to provide a Project Specification proposal that was tailored to the car park structure.

After several months of discussions with the architect, Triflex ProPark was specified due to being BBA approved and the systems compliance to BS EN 1504-2. This standard is given to systems with dynamic crack bridging properties and allows Triflex ProPark to accommodate high levels of movement within a structure.

Triflex ProPark prolongs building life, but also answers all waterproofing, surfacing, safety, aesthetic and design needs. The heavy duty system is hard wearing, and has a proven track record in the UK and Europe, ensuring long term security and peace of mind.

In order to achieve the best possible bond between the substrate and the waterproofing system, The Technical Team specified Triflex Cryl Primer 287 to prime the concrete decks prior to Triflex ProPark being installed. Triflex Cryl Primer 287 was also specified to eliminate any potential issues with outgassing by filling in the small capillary holes in the concrete where outgassing is prone, while enhancing the bond between the substrate and Triflex ProPark.

Challenges were faced on-site during installation due deck temperature as the installation took place during the hot summer months of 2018. With the concrete retaining heat, it was recommended that the primer and waterproofing layer be installed in the early hours of the morning before the concrete had heated up. Triflex Cryl Primer 287 can be over-coated after just 45 minutes and Triflex ProPark is trafficable after just 1 hour, allowing works to carry on regardless and the 8,000m² of new decks to be completed on schedule.

Triflex

Delivering solutions together.

Triflex is the leading European specialist in cold liquid applied resins. Our high-quality systems provide reliable and lasting waterproofing, surfacing, protection and markings for roofs, walkways, balconies, terraces and car parks. We are a family owned and operated company that provides individual solutions worldwide. From our production facilities based in Minden, Germany, we have been researching and developing solutions designed to protect and repair the built environment for more than 40 years.

From our UK headquarters based in Stone, Staffordshire we pride ourselves on providing our clients with tailored solutions and exceptional levels of service and support throughout all stages of their project. From conducting in-depth site surveys, to our comprehensive testing and off-site and on-site support, we ensure that your project is completed on time and to the highest standards. All Triflex solutions are certified to the highest standards and are backed up by long term meaningful warranties ensuring peace of mind.

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System benefits Triflex ProPark®

- Proven, fully reinforced, elastomeric waterproofing membrane
- Compatible with virtually all substrates including asphalt
- High levels of anti-skid
- Totally cold liquid applied technology
- Rapid curing system - even at low temperatures
- Maximum design options
- Certified to the highest standards

Finish

Waterproof wearing layer

Reinforced waterproofing

Primer

