



SIKA AT WORK

HIGH CHELMER CAR PARK

PRODUCTS USED:

Sikafloor® RB58 Pronto System
Sikafloor®-10 Pronto N
Sika® Reemat Premium base coat
Sikafloor®-32 Pronto
Sikafloor®-18 Pronto topcoat

OTHER MATERIALS:

Sikagard®-552 W Aquaprimer
Sikagard®-675
Sikagard®-850 Activator
Sikagard®-850 Clear
Sika® MonoTop®-1010
Sika® MonoTop®-615

BUILDING TRUST



HIGH CHELMER CAR PARK

AT A GLANCE

HIGH CHELMER IS A COUNCIL-OWNED 1,012-SPACE, MULTI-STOREY CAR PARK LOCATED NEXT TO CHELMSFORD'S HIGH CHELMER SHOPPING CENTRE IN THE CITY CENTRE.



The reinforced concrete multi-storey car park had undergone a major programme of refurbishment to the internal elements of the structure. However, the top deck, split over three levels, had developed splits and cracks, allowing water to enter into the car parking decks underneath.

Although the upper decks had originally been waterproofed with a mastic asphalt surface when constructed in the 1960s, long-term exposure to the elements combined with constant vehicle traffic meant it needed to be completely re-waterproofed.

The Challenge

The project team faced several challenges:

Environmental – It would have been expedient to remove the damaged asphalt in its entirety and start from scratch. However, to avoid the environmental costs of this approach, the team judged it would be more sustainable to remove only the damaged waterproof coating, approximately 3mm thick, and salvage the asphalt underneath. This meant more than half (54%) of the material was recycled and the amount going to landfill was reduced to 16%.

Technical – Sika® became involved early in the project and was on hand to give technical advice and liaise with Chelmsford City Council throughout. Stripping the damaged asphalt layer, rather than replacing it, would inevitably remove some of the asphalt in the process so with no margin for error, meticulous planning was required.

Before drawing up the specification, Sika's technical team visited the site to take core samples to assess the depth of the asphalt and whether it was thick enough to overlay. Satisfied that this was the case, 5500m² of dynamic crack-bridging Sikafloor® RB58 Pronto was applied over the existing asphalt to provide a slip-resistant and hard wearing waterproof surface.



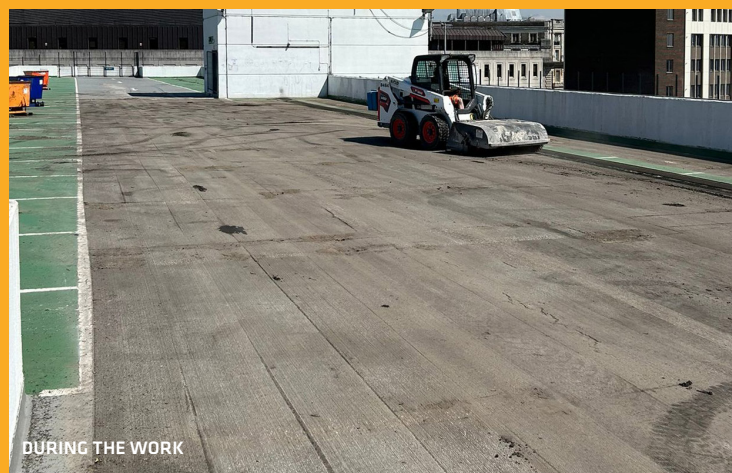
Cost – Had the team decided to simply remove all the damaged asphalt, using a screeding product the falls of the car park would have had to be reinstated and the thickness of the deck increased. All of the drainage would have also needed to be reconfigured, which would have increased not only the project duration but also the costs. Given the surface area involved, 5500m², replacing the asphalt would require around 600 tonnes of material and cost up to five times more than pouring Sikafloor® Pronto RB-58 resin.

Access – The car park's location in a busy town centre meant using asphalt would have caused logistical difficulties in getting trucks to and from the site. Using Sika's resin-based system was far simpler in comparison.

Noise pollution – The Sikafloor® RB58 Pronto System was chosen because removing and reapplying asphalt generates significant noise. Using RB58 as a refurbishing coating significantly reduces noise levels, ensuring minimal disruption to the neighbours.

Timing – It was vital the contractor Cemplas completed the programme of works on time as not only was winter approaching, but also every day the upper deck was out of action, the council was losing revenue. Furthermore, the suicide barrier around the deck's perimeter had been temporarily removed to allow 1000lm of upstand detailing to the concrete parapets to be done and this needed to be reinstalled as quickly as possible.

HIGH CHELMER CAR PARK



Workmanship

This was a fully fleeced/waterproofed decking system, incorporating Sika® Reemat Premium which is a glass fibre mat reinforcement that has been fully tested to meet the highest crack bridging standards including BS EN1062-7 Method B. This tests the complete system through 20,000 crack cycles up to 0.5mm @ -20C and demonstrates the system's ability to protect against water penetrating through the membrane, ensuring the future integrity of the deck. A fully fleeced/waterproofed decking system was specified on this product due to the crack-bridging properties it provides, which was used to guard against the movement of asphalt over time and ensure longevity.

Added to this, Sikafloor® RB58 Pronto comes with a ten-year guarantee* for added peace of mind.

The solution

Sikafloor® RB58 Pronto, which is a PMMA chemical type, was chosen primarily for its strong crack-bridging properties. The system's structure consists of Sikafloor® -10 Pronto, a two-part primer based on reactive acrylic resin; Sikafloor®-32 Pronto & Sika® Reemat Premium as a base coat; Sikafloor®-32 Pronto & Sikafloor®-Pronto Filler as a wearing coat and Sikafloor®-18 Pronto as topcoat, with the latter providing an aesthetically pleasing colour finish.

The resin was linked into the Ethylene Polypropylene Diene Monomer (EPDM) of the car park's roof deck expansion joints, ensuring a seamless waterproofing detail.

Sikafloor® RB58 Pronto's fast-setting properties also ensured works could be completed quickly, with minimal disruption.

The Sika products specified meant that, despite all the project's challenges, the works were completed on schedule within 16 weeks.

As evidence of the high standard of workmanship, Andrew Wood of Chelmsford City Council, commented, **"I am very impressed with the work Cemplas has carried out on the decks and soffits. You have achieved a high standard of finish and the roof levels look like a new car park."**

* Subject to Guarantee Requirements. Available on request.



SIKA LIMITED

Head Office
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
United Kingdom

Contact

Phone 0800 112 3865
E-Mail constructionolutions@uk.sika.com
www.sika.co.uk
X @SikaLimited
in @Sika
@SikaLimited

BUILDING TRUST

