



SIKA AT WORK

THE MERRY HILL RETAIL COMPLEX

CONCRETE REPAIR:

Sika MonoTop® 1010
Sika MonoTop® 615
Sika MonoTop® 3020
Sikadur® 31+
Sikadur® 52

STRUCTURAL STRENGTHENING:

Sika CarboDur® S plates
Sikadur® 30

TOTAL CORROSION MANAGEMENT:


Sikagard® 675W

BUILDING TRUST




MERRY HILL: THE PURPLE AND GREEN MULTI-STOREY CAR PARKS

Sika CARBODUR S1012 10140
X062 ZE 07 "DO NOT DAMAGE" IN PAS
ENDOMMAGER-NICHT BESCHÄDIGEN!
"NON DANNEGIARE" "NO TAMAR"



Sika CARBODUR S1012 10140
X062 ZE 07 "DO NOT DAMAGE" IN PAS
ENDOMMAGER-NICHT BESCHÄDIGEN!
"NON DANNEGIARE" "NO TAMAR"



AT A GLANCE

THE PURPLE AND GREEN MULTI-STOREY CAR PARKS (MSCP) ARE LOCATED WITHIN THE MERRY HILL RETAIL COMPLEX, ONE OF THE BUSIEST SHOPPING CENTRES IN THE COUNTRY, WHICH RECEIVES AN AVERAGE OF 25 MILLION VISITORS PER YEAR. THE CENTRE BOASTS MORE THAN 250 SHOPS, A SEPARATE RETAIL PARK, CINEMA, FOOD HALL AND MORE THAN 10,000 CAR PARK SPACES ACROSS SEVEN SEPARATE CAR PARKS.



BEFORE SHOT SHOWING CORROSION

The Purple and Green MSCPs have capacity for more than 4,000 vehicles across five levels. The project's scope involved concrete repair, structural strengthening using carbon fibre laminates, the replacement of the conduits, movement joints, drainage channels and deck waterproofing.

The Challenge

After extensive testing and investigation work, the engineers discovered that the car park was suffering from several structural issues. This included corrosion of steel reinforcement as a result of de-icing salt exposure, leading to loss of strength and concrete cracking due to the movement of the structure.

For the property manager, Savills, the car park had to provide a safe and secure location for the people and vehicles that visit the busy shopping centre daily. Savills instructed the multi-disciplined structure refurbishment specialist contractor, Cemplas, to carry out the extensive programme of work with its chosen partner, Sika®.

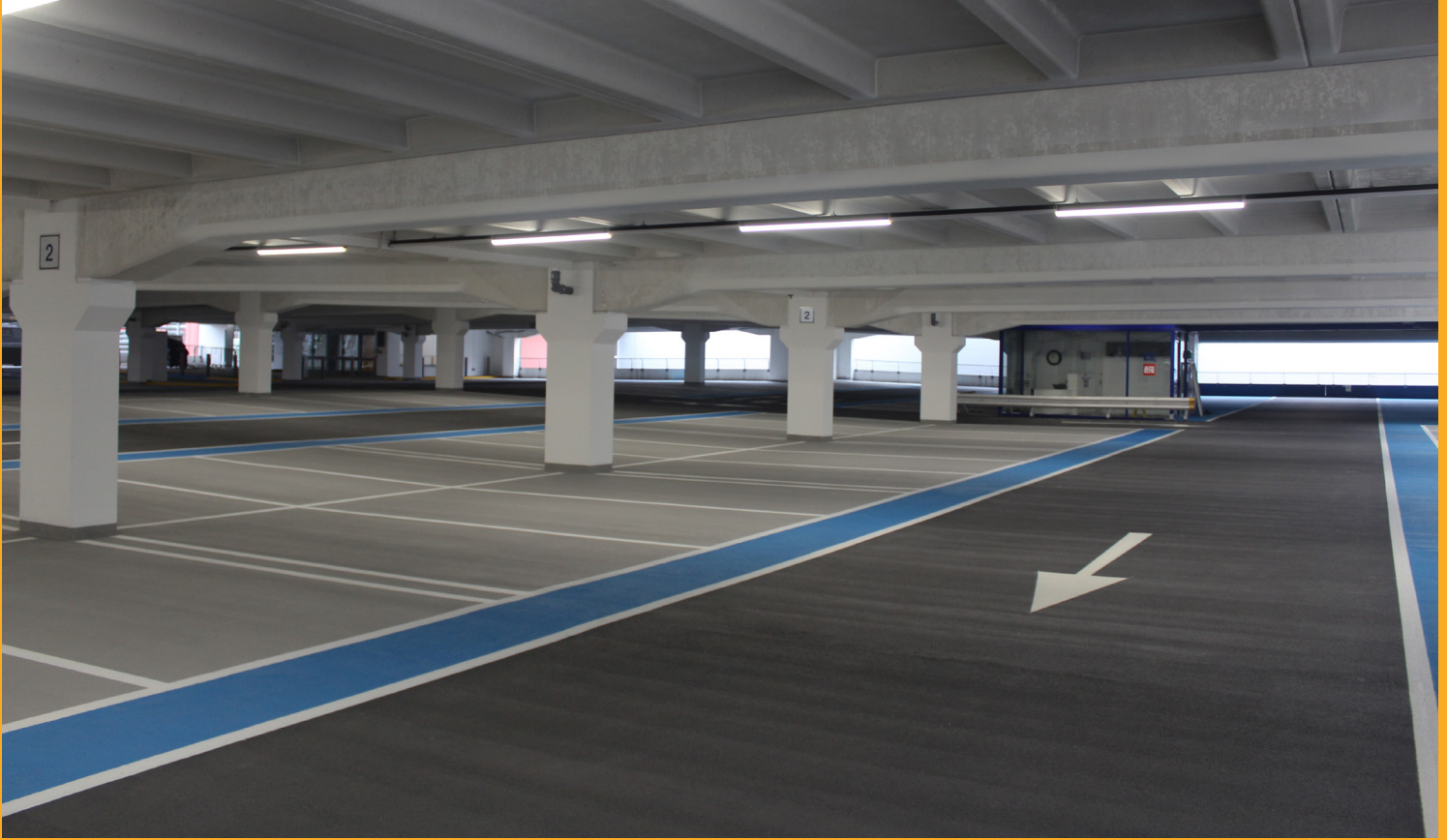
The Solution

Utilising more than 40 years of experience in car park refurbishment, Sika® worked with Cemplas to ensure they provided the ideal solution to ensure the Purple and Green Multi-Storey Car Parks at Merry Hill are structurally sound for years to come.

Starting with a series of concrete repairs, two layers of Sika's high-performance and sustainable MonoTop 1010 was used to prime the required areas, before MonoTop 615 and MonoTop 3020 were used alongside Sikadur 31+ to repair the defective concrete where corrosion had led to damage on the beams. The beams were then finished in Sikagard 675W, an anti-carbonation coating that will provide the beams with long-term durability as well as an aesthetically pleasing finish. Renowned for their simple application and superb durability Sika® MonoTop® repair mortar systems reinstate lost strength and help prevent future corrosion.

The team then moved on to repair any cracks which had appeared on the decks due to general wear and tear or chemical exposure, using crack injection grout Sikadur 52.

MERRY HILL: THE PURPLE AND GREEN MULTI-STOREY CAR PARKS



Photos by kind courtesy of Cemplas

Sika's high-strength Carbon Fibre Reinforced Polymer (CFRP) laminates, Sika® CarboDur® S plates, were bonded to the underside of the beams and external columns throughout the structure using Sikadur 30 epoxy adhesive. This innovative material provides long-term strengthening to the MSCP. Due to the laminates' high strength and low weight, much less material is required to achieve the same level of strengthening as steel, reducing the risks around manual handling, lifting operations and the amount of labour required on site.

The future

The renovation is part of a five-year improvement and expansion plan for the Merry Hill Centre, that was announced in 2021. The refurbishment programme of one of Merry Hill's busiest car parks is now complete and the structure is open and fully operational. Working to futureproof the car park for years to come, the renovation means that the structure is also prepared for the vehicles of the future, such as EVs, which are considerably heavier than traditional Internal Combustion engine vehicles.

Mike Wood, Divisional Director at Cemplas, said: "For this project, we chose to work with Sika® due to their extensive expertise within car park environments. Even after the solutions were selected and work began, the Sika® team was always on hand to support us with any training needs or extra support we required. We look forward to working with the team at Sika® on many more projects to come!"

As well as a market-leading range of products, Sika also provides a comprehensive car park specification service. Sika's experienced specification team will visit the site to visually assess the structure and recommend further testing and surveys if required. They will then produce a detailed product specification which is tailored to address the causes of the damage and ensure that interventions result in long-lasting repairs.

FOR FURTHER SUPPORT AND INFORMATION:

tel **0800 112 3863**
email **constructionolutions@uk.sika.com**
or visit **www.sika.co.uk/carparks**



SIKA LIMITED

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

Contact

Phone 0800 112 3863
www.sika.co.uk
@SikaLimited
/company/sika/