CASE STUDY

Car Park Refurbishment

MAKERS

...makes the difference

PROJECT

TESCO Superstore

STRUCTURE

Car Park

CLIENT

TESCO

CONTRACT

Tesco Superstore Broughton Road is located within a residential area to the north of the City of Edinburgh.

From 1916 to at least the mid 70's the site was a chemical factory producing poisons and acid from here, this factory was then taken over and turned into its 1st shopping store by the name of Williams Lows Supermarket, which continued to trade until the late 90's when Tesco bought the land and turned it into a Tesco Superstore which it continues to trades as today.

The car-park is circa 4000m/2 and consists of 3 no separate car parks a ground level weight bearing car park, an underground car park and a smaller over spill car park located to the south side of the store.

Due to water penetrating through the load bearing deck this was starting to cause damage to customers cars therefore Makers were tasked with carrying out a full refurbishment of the existing waterproof membrane and the replacement of the existing movement joint. Over 600 Ton of the existing asphalt had to be planned off to expose the old water proof membrane.

Before

During

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Prep works ongoing

Removal of the existing tarmac

Deck prepped ready for coatings

The first issue Makers came across was how to plan the works as the store and car park had to remain operational at all times, so we decided to carry out the works over 3no phases to maintain adequate parking for the customers. The weather also played a big part in this project as the works would run through the winter period with heavy rain and high winds being the norm Makers had to ensure adequate protection was in place to prevent over spray from the coatings being applied.

The existing 90mm of asphalt had to be planned off to expose the old water proof membrane which over time had de-bonded and become brittle. All debris had to be removed from the working phase area at this point to allow a captive blast of the deck to remove any contaminates. All edge works was carried out by hand held tools to ensure all areas were thoroughly prepared. Makers then removed the existing expansion joint, concrete block out and also the existing metal rain water drain which was also showing signs of deterioration. The deck was then inspected for any further damage such as cracks, exposed steels and substrate which were dealt with using various concrete repair techniques.

Makers were then left with the task of reinstating the waterproofing membrane, the client specified the PMB Polyurethane Elastomer System which consisted of a 4-coat system a single component PMB primer, two-part PMB spray applied water proof membrane and a PMB tack coat to which a 5mm aggregate was broadcasted, followed by a single component PMB bitumen overlay coat which would aid bond the new asphalt once laid.

Once the waterproof system was applied the full deck was sparked tested to ensure there were no breaches within the system confirming the deck was fully water tight.

Spray applied membrane

Spray applied bitumen coat

Bitumen coating fully applied

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Tarmac being laid

Roller compacting the tarmac

Tarmac works complete

Now the deck was fully watertight we had to reinstate the tarmac, this was made up of a 60mm base coat to bring the deck up to its original levels and to create falls to allow rain water to fall towards the outlets. It was then topped off using a 30mm topper, at this stage a channel was cut out of the tarmac across the deck to allow the heavy duty Radflex HD50 expansion joint to be installed.

We then completed the project by line marking the whole car park back to its original layout and installing several new self-weighted trolley shelters specified by Tescos to prevent the need to install fixings into the newly waterproofed deck.

White lining completed

Works complete

New self-weighted trolley bays

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