

CASE STUDY

Watertight & Trafficable Movement Joints

MAKERS

...makes the difference

PROJECT

Meadowhall Shopping Centre

STRUCTURE

Elevated Parking Deck

CLIENT

British Land

CONTRACT VALUE

£950,000

CONTRACT



Continually leaking movement joints to large areas of the elevated parking deck at Sheffield's Meadowhall Shopping Centre have been a persistent headache to the centre's owner, British Land.

As well as paintwork damage to vehicles parking below the elevated parking deck as salt-laden water constantly seeped through, the leaking joints had seriously affected footfall as staff of both the centre's retail tenants & shoppers decided not to park underneath for risk of getting wet.

After an extensive review and re-design process lasting almost 24 months in conjunction with Triflex (UK) Ltd, Makers were appointed as the successful contractor following a competitive tender process.

Even though the asphalt wearing course on the parking deck had been previously overlaid with an elastomeric, waterproof layer, due to the movement differential between concrete and asphalt meant that a large gap opened up allowing water ingress via the failed joints and on to parked vehicles and pedestrian users below.

Makers scope of work on the project was to completely remove the existing pre-formed failing joints and to reinstate with new watertight & trafficable movement joints.



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The asphalt was saw-cut 240mm either side of the failing pre-formed movement joints and removed to expose the concrete deck. The asphalt was also then cut back a further 100mm x 5mm deep. The main joint arrisses were re-formed with a rapid setting cementitious mortar & resin bonding agent 200mm wide x 40mm deep. The main movement joints were re-formed to 50mm wide in readiness for the new Emseal DSM joint.

A new 40mm wide joint between existing asphalt and new concrete was then lined with a bonded 150mm wide carrier membrane. Primer was then applied to both asphalt & concrete (Triflex 276 primer on to new concrete & Triflex 222 on to asphalt) & overlaid with a 160mm wide fleece bonded with Triflex 230 bonding agent. A second layer of fleece 300mm wide was then applied, again bonded with Triflex 230. A backing rod was then inserted into the trough of the 40mm joint and filled with Triflex Flexible Filler.

Reiber plastic slip-resistant layer (supplied in either light or dark grey) was then trowel applied either side on top to finish both sides of joints. A resinous structural adhesive was applied to the vertical faces of the new & correctly formed primary joint walls and Emseal DSM trafficable & watertight joint system – 50mm wide x 75mm deep – placed in & expanding to ensure a 100% bond each side forming watertight joints.



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