Manchester Airport T-2
MS Car Park, Manchester

Client:
Manchester Airport Group
Architect:
Pascall Watson
Consulting Engineer:
Burro Happold
Main Contractor:
Laing O'Rourke
Specialist Contractor
Thelwell Flooring
Main Products Used:
Emseal SJS System, Emseal DSM

For More Information:
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Case Study

The new 9-storey car park with 3,800 spaces, was built as part of the £1 billion Terminal-2 redevelopment for Manchester Airport Group (MAG). To save time and space on site, the consultants used an innovative design, with a hybrid combination of steel delta beams and precast concrete, then on site the hollow-core precast floor slabs were topped with a 100mm thick reinforced concrete screed. To fully accommodate the anticipated levels of thermal movement and loadings in service, the engineers incorporated wide, high movement capability, structural expansion joints across the parking decks, between the different sections of the building.

Given the dimensions of the deck joints (100mm) and the high movement capability required (100% = +/- 50%), with simultaneous exposure to the elements whilst under frequent heavy traffic, the joint sealing solution could only be specified as the Emseal SJS System. This unique structural expansion joint system easily accommodates high levels of movement in more than one plane, plus it has an integral coverplate to provide protection of the central movement section and the joint arrises. Importantly, the Emseal SJS is bonded into position with a structural epoxy adhesive from above, therefore requiring no access from below and enabling other works (e.g. M&E cable works etc.) to continue, plus as it is fully bonded, the SJS system requires no potentially damaging drilling into sound concrete to install mechanical fixings. In less trafficked wide joints at the perimeter, the Emseal DSM System was used, as a cover plate was not necessary.

NCC Movement Joint Systems