



Manchester Airport T-2 Car Park, Manchester

Case Study

This large, new 9-storey car park with 3,800 parking spaces, was built as part of the overall £1 billion Terminal-2 redevelopment project for Manchester Airport Group (MAG). To save time and space on site, the consultants used an innovative hybrid structural design, with a combination of steel delta beams and precast hollow-core concrete slabs. Onsite, these were topped with a 100mm thick reinforced concrete screed, and then sealed and protected by Thelwell with a Triflex Deckfloor waterproofing system.

To accommodate high thermal movement of the decks, the engineers used wide structural expansion joints, transversely between the main building sections, which were brought right through all decks. The joints were designed to be 100mm wide due to the high joint movement capability required of +/- 50% (total 100%), with simultaneous exposure to the elements whilst under frequent heavy traffic.

The unique Emseal SJS expansion joint sealing system was specified as it could accommodate these high levels of movement, plus the integral coverplate provides protection of the central movement section and the joint arrises. Another advantage is that Emseal SJS is bonded into position from above, enabling other works to continue below, plus it requires no potentially damaging drilling to install mechanical fixings. As a cover plate was not necessary in the less trafficked perimeter wide joints, Emshield DSM System was used,

Client:
Manchester Airport Group

Architect:
Pascall Watson

Consulting Engineer:
Burro Happold

Main Contractor:
Laing O'Rourke

Specialist Contractor:
Thelwell Flooring

Main Products Used:
Triflex Deckfloor, Emseal SJS
System, Emseal DSM

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