

AMCO·GIFFEN

Case Study



Manchester Airport Hotspot Repairs

Location	Manchester Airport
Client	Bethell & Manchester Airport Group (MAG)
Project Value	£150,000
Project Timeline	Four weeks

Using our in-house capability to undertake a range of specialist concrete repairs, AmcoGiffen completed vital repair work to taxiways at one of the UK's busiest airports. This included 372 'hotspot' pavement repairs using Maxicrete – a unique and highly flexible material that is specially designed to deliver very fast, but low-cost and effective, results.

Project Overview

With the condition of taxiways giving cause for concern, and the need to proactively repair defects to prevent any operational disruption, Bethell (MAG's framework contractor) approached AmcoGiffen for assistance. In line with our strategy to grow our presence within this high-profile sector, we were keen to carry out these repairs using PQX concrete and the highly flexible, impervious and load-bearing Maxicrete product.

All stakeholders were informed by MAG that these urgent repairs would be undertaken within specific working windows, limited by air traffic movements and involving full closures of the taxiways. We needed to work efficiently and flexibly, using our specialist, accurate cutting equipment to best effect.

Project Challenges

Our main challenge was the sheer number of hotspots: no fewer than 372 repairs had to be carried out, while allowing for the weather-dependent nature of this type of work and minimising any disruption to the airfield's ongoing operation. In this respect, early planning was key: some repairs had to be carried out at night, given their proximity to the runway, which was in frequent use during the day.

ID passes and certificates also had to be obtained, enabling staff – and vehicles – to gain airside access; and we also took part in vital, end-of-shift FOD (foreign object debris) inspections, as this represents one of the most serious, but avoidable, hazards to aircraft on the ground.



Case Study



Methodology

For the hotspots (totalling 217m²), we used a 350 road planer on large repairs, milling out the centre section and then saw-cutting the edges to give the repairs a clean, straight edge. Smaller repairs were saw-cut and broken out using Hilti breakers. We then cleaned the repairs with a road sweeper, before jet-washing them down. After drying (using a gas torch), primer was applied before Maxicrete 40 grade was added and left to cool for 30 minutes. A second layer of (20 grade) Maxicrete was then added, with bauxite stone applied on top to complete the repair.

We also had to complete six bay replacements during night-time possessions. This involved removing the concrete bays above services (eg fuel mains, electricity, fire hydrants), but doing so by saw-cutting them into manageable sections and lifting them off (rather than the usual concrete-breaking and removal with an excavator), to avoid any damage to the buried services. Once all the defective concrete had been removed, the sub-base was inspected and, if necessary, replaced. The new PQX concrete was then poured using volumetric wagons until flush with the existing concrete bays.

Project Benefits

All 372 hotspot repairs and six bay replacements were completed, defect-free, within the required timeframe. In fact, we finished ahead of schedule, enabling the client to undertake additional repairs during their planned taxiway closures.

This project demonstrated our ability to work as part of a wider team with the Airport's stakeholders and deliver against the brief with minimal disruption to operations.

“AmcoGiffen worked with them to keep aircraft moving, while carrying out repairs in some very heavily trafficked routes.”

CLAIRE MCDERMOTT
PROJECT MANAGER, MANCHESTER AIRPORT GROUP