

Airliner Wash-down Area Re-supported

INDUSTRY

Infrastructure

STRUCTURE

Airport

PROBLEM

Sinking taxiway

LOCATION

NSW, Australia

DURATION / YEAR

2 days / 2001

TECHNOLOGY

Uretek Slab Lifting

BUSINESS UNIT

Mainmark Australia



Summary

At Sydney international airport the sub-base under 400m² of taxiway pavement slabs in the area used for washing-down 747s and other airliners had become water-eroded.

The area was re-supported and re-levelled section by section by Uretek geopolymeric injections with no interference with airport activities.

So successful and impressive was this project that we have been called in several times to do similar work at other areas of this airport and other major Australian airports.

Objectives

To re-support and adjust the levels of the pavement slabs that were 'pumping' in the wash-down area of the airline's jet-base. It was imperative that this be done economically and with no mess or inconvenience to airline operations.

Solution

Constantly saturated, the wash bay slabs had been undermined and lost support due to the sub-base

losing fines with the hydraulic pumping action of the aircraft moving onto the area.

Where jacks had been used under the planes some slabs had even cracked so badly that they had been removed for replacement as shown in the photographs.

The technology applied was our patented method, Uretek Slab-Lifting, with expanding structural resins being injected below these very thick slabs to fill any voids, compact the sub-base and raise the slabs back to their precise design levels.

Despite frequent rainstorms, the project was completed in just two full days.

The work was completed on time and on budget, despite frequent rain periods and caused no disruption to airport operations.

Successful completion of this project was instrumental in securing us other very similar projects at this airport (in 2002 and 2005) and at the principal airports of Brisbane (2001), Adelaide (2002) and Perth (2007).

Pictured above: 1, 2. Technicians watch dial gauges (yellow) and the laser level (on the staff) as they raise the slabs to the precise required levels. 3. Extremely thick, the slabs were keyed in one direction and dowelled in the other. 4. 747s were able to use the area just 30 minutes after completion.