PROJECT PROFILE
N 7057

mainmark

Airport Runway Rehabilitation

INDUSTRY
Infrastructure

STRUCTURE
Airport

PROBLEM
Sinking pavement

LOCATION
Gimpo, South Korea

DURATION / YEAR
28 days / 2005

TECHNOLOGY
Uretek Slab Lifting &
Uretek Deep Injection

BUSINESS UNIT
Mainmark Australia

Summary

10,000m^2 of concrete runway and taxiway at Gimpo, South Korea's number 2 airport, suffered from varying degrees of subsidence, from 50mm to 160mm.

The subsidence meant that the surface design stormwater profiles were no longer effective. Ponding after rain created ice patches, which could cause aircraft to skid.

The project was completed with precision in 28 days by Uretek Slab Lifting bringing the surfaces back to level, and Uretek Deep Injection effecting re-support where required.

Objectives

To remove all areas of potential ponding from the entire airport pavement by raising the sunken slabs and restoring the hydraulic contours and to re-establish and re-confirm complete support back onto the sub-base soils. Very importantly the project was required to be achieved without any interruption to airport operations.

Solution

The Australian team was flown in with all technical equipment and materials.

From multiple Operations Rigs, expanding, structural resins were injected beneath the slabs to restore the hydraulic contours in subsided sections. Uretek Deep Injection was used to strengthen the foundation ground.

Unlike concrete 'mud-jacking', which had been trialled previously unsuccessfully, the Uretek resins achieved near maximum strength almost instantly and thus allowed aircraft to operate on injected areas just 30 minutes later.

The airport slabs were rehabilitated with ponding on the runways and taxiways eliminated completely. The surface contours were restored precisely, enabling aircraft to operate in smooth, problem-free conditions.

This extensive project was completed in just 28 days without interruption to airport operations at any time.