

TECHNICAL DATA SHEET

Block paving at London Luton Airport comes of age

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Pilot to Tower: - "Request to push and start"

Tower to Pilot: - "Push and start approved"

With this short dialogue yet another aircraft movement commences from one of the block paved apron stands at London Luton Airport.

The block paving on these stands has now been in use for more than twenty one years and during this time it is estimated that there have been some 400,000 aircraft movements from these stands. This is cause for some celebration as the life of an aircraft pavement is typically 15 years and the block paving continues to function satisfactorily after 21 years as the photograph below illustrates.



**London Luton Airport Apron
Stand No. 2 – Sept. 2005**

During the early 1980's maximum takes-off weights of aircraft and a rapid increase in aircraft movements were taking their toll on the existing bituminous pavement surfaces and were consequently showing signs of severe distress. For this reason, in 1981, a trial was made using concrete block paving to determine whether it would be suitable as an overlay on apron stands, replacing the existing damaged bituminous surfacing.

Following the success of this trial nine of the apron stands were resurfaced with 80 mm thick rectangular concrete blocks, a total area of 2,700 m². The reason for adopting concrete block paving was that this form of surfacing satisfied

the specialist properties required for aircraft pavements, namely:

- Durability
- Good rideability
- High strengths and stability to withstand the shear stresses induced by heavy wheel loads and tyre pressures
- Avoidance of Foreign Object Damage (FOD)
- Good friction and drainage characteristics
- Ease of maintenance
- Resistance to jet engine blast and thermal shock
- Resistance to de-icing and anti-icing agents, aviation fuels and hydraulic oils

Following the success of the block paving at Luton, it was adopted by BAA, MOD and accepted by the Civil Aviation Authority in the UK and by the Federal Aviation Authority in the USA.

There are now over one million m² of concrete blocks used for aircraft pavements worldwide, the largest being at the Chek Lap Kok Airport in Hong Kong (500,000 m²).