

CASE STUDY

BRUSSELS AIRPORT, BELGIUM



ASISOLUTIONS.CO.UK



Brussels Airport is an international airport located in Zaventem, 12km northeast to the capital of Belgium. The Southern Runway (07R/25L) was resurfaced in 2015 using grooved Marshall Asphalt and the airport wanted to preserve the surface course to extend the service life, utilising preventative maintenance as part of their life cycle planning.

AIRFIELD PRESERVATION

The Challenge

In 1956 a new third runway, 07R/25L was constructed at Brussels airport. Originally built at 2,300m long, it was later extended to 3,200m. Runway 07R/25L was resurfaced in 2015 and the contract took about 3 months to complete. The works involved removal and replacement with a new surface of grooved Marshall Asphalt.

The Solution

Brussels airport sought a preventative maintenance measure to extend the operational life of runway 07R/25L and were aware of RHINOPHALT® preservation treatment being used at Birmingham airport. Following visits to the UK, Brussels Airport decided to use RHINOPHALT® to provide early life protection as part of their life cycle planning.

CONTRACT

A trial strip of RHINOPHALT® was applied on the runway shoulder to assess friction and ensure the grooved asphalt maintained adequate texture depth. The trial resulted in no loss of friction and approval for RHINOPHALT® was granted.

RHINOPHALT® is applied before defects become visibly evident. It penetrates the asphalt surface through micro-cracks and interconnecting voids to form a hard seal, keeping water out and slowing the ageing process – keeping asphalt in good condition for longer.

MINIMISING DISRUPTION

The contract commenced in September 2019 and was scheduled for 5 night shifts. The RHINOPHALT® was supplied in 2 x 30,000 litre tankers which enabled an average of 25,000m² to be treated each shift, working under strict 22:00 – 05:00 closures. Line marking was re-applied in the same shift, once the RHINOPHALT® had fully cured.

FRICTION RECOVERY

Fine RHINO-Dust is applied at the same time as the RHINOPHALT®, applied by a synchronous applicator vehicle, which maintains grip and helps to abrade the RHINOPHALT® from the aggregate surface under trafficking. Once the aggregate micro-texture is exposed, the grip values are returned to pre-application levels.

Friction testing was carried out before and after application using the airport's vehicle mounted ASFT tester.

The friction results showed no loss in grip following RHINOPHALT® treatment.

- Pre-application grip number = 0.86
- Post-application grip number = 0.94

EXTENDED PAVEMENT LIFE

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KEY BENEFITS

Substantial financial benefits are achieved through improved asset management because RHINOPHALT® :

- Can be applied quickly and at night, maximising airfield availability
- Adds years to the life of asphalt, delaying expensive cost of replacement, therefore reducing whole life cost.
- Minimises the risk of foreign object debris (FOD) and potholes associated with aggregate loss.

120,000m² of Asphalt Surface Course - Brussels



34
Runway
closures



1210
HGV
movements



872,900
Carbon
kgCO₂e/m²

120,000m² of Rhinophalt Asphalt Preservation - Brussels



5
Runway
closures



11
HGV
movements



39,300
Carbon
kgCO₂e/m²

