



Asphalt Reinforcement

Pavement Rehabilitation

Rehabilitation of the Runway 06 at Perth Airport in Australia: Effective asphalt reinforcement with HaTelit® C 40/17



Perth Airport, overview

Project Description

Perth Airport is the fourth busiest airport in Australia in terms of passenger traffic, operating 24 hours a day, seven days a week. In 2009, after repeated maintenance works over many years, an effective rehabilitation of the extensively cracked Runway 06 Threshold was required to restore its serviceability. The existing pavement consisted of 300 mm concrete slabs constructed in 1960, which were later overlaid with 20 mm asphalt surfacing.

Challenge

Due to the severely cracked condition of the existing pavement, resurfacing by using just a thin asphalt overlay was not expected to provide a long-term success. To solve this problem, the propagation of existing cracks and expansion joints from old concrete slabs into the new asphalt overlay needed to be prevented.



Aerial Photo of the Runway 06 Threshold in 2020

Solution

To effectively retard reflective cracking and thus extend the service life of the rehabilitated pavement, HUESKER's asphalt reinforcement HaTelit C 40/17 was used. This solution comprises a flexible reinforcement grid made from high-modulus polyester yarns with an ultralight nonwoven backing for ease the installation. Both the grid and the nonwoven have a polymer-modified bituminous coating (with a minimum of 60% bitumen content) to enable an optimum bond between the asphalt layers.

The rehabilitation procedure involved firstly texturing of the existing asphalt surface and construction of a 25 mm thick asphalt layer. Subsequently, the asphalt reinforcement HaTelit C 40/17 was placed in accordance with the installation guidelines, and then covered with a 40 mm asphalt wearing course.



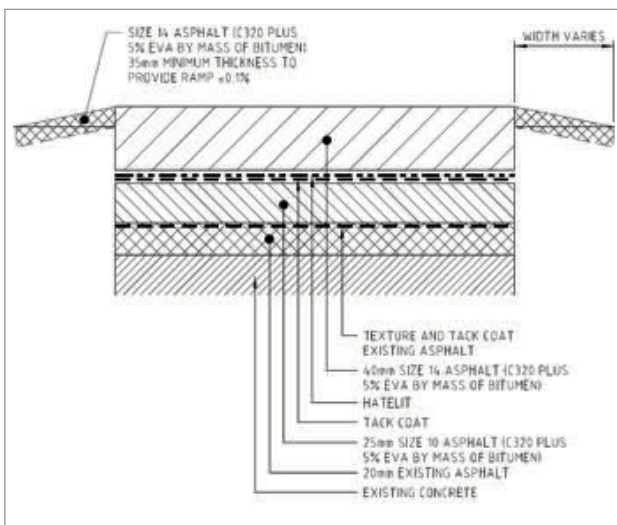


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Wide crack (reflective crack) before rehabilitation works



Design for the pavement rehabilitation



Pavement condition in 2009 prior to rehabilitation

HUESKER Australia Pty Ltd

Suite 34, Regatta 1 Business Centre
2 Innovation Parkway
Birtinya, QLD 4575, Australia
Phone: +61 (0) 7 5413 9234
Mail: office@HUESKER.com.au
Web: www.HUESKER.com

CE **DAKKS**
Technische
Akkreditierungsstelle
D-15 029 03 00
HUESKER Synthetic is certified
to ISO 9001 and ISO 50001.

Performance

In 2020, approximately 10 years after the rehabilitation, the condition of the Runway 06 was checked during a visual inspection. The pavement was found to be in an extremely good condition, without the propagation of the existing cracks and joints, well exceeding the expectations.

Airport authorities have confirmed the asphalt reinforcement solution HaTelit C 40/17 to be highly successful in rehabilitation of what was once known as a very challenging runway pavement.

Conclusion

This case study demonstrates that through effective crack retardation, service life of the rehabilitated pavement can be extended considerably. Positive effects include increased maintenance intervals, lower maintenance costs and reduced disruption to flight operations.

HUESKER Australia wishes to thank the Perth Airport Operations team for their collaboration and making this information available to the public.

Project:	Runway 06 Pavement Rehabilitation
Location:	Perth, Australia
Client:	Perth Airport
Construction period:	2009
HUESKER Product:	HaTelit C 40/17



Situation approx. 10 years after rehabilitation with HaTelit C 40/17