BORAL ASPHALT
Build something great™

aeroPAVE™

CAPABILITY STATEMENT

Touchdown with aero**PAVE**™

Aeropave™ has been developed specifically for the aviation industry to provide a durable high performance asphalt surface for safe operation on runways and taxiways at military and civilian airports.

Aeropave™ design recognises that surface performance needs to take into account the new challenges of modern aviation such as:

- an increase in the number of flights, air freight and air passengers
- increasing dependence on air defence
- catering for increases in aircraft size, tyre pressures and wheel loads
- reduced down time, reduced maintenance shut downs and increased utilisation of runways
- increasing available flight operating hours
- reducing disruption at airports
- eliminating delays to commerce, freight and passengers
- reduced exposure and liability associated with safety, amenity, accessibility or damage.

When analysed in a series of laboratory based performance tests widely acknowledged in global aviation pavement technology, Aeropave™ demonstrated excellent performance compared to products, both contemporary binders M1000 (Multigrade) and A10E (SBS) and proprietary binders denoted ABX and ABY, that are available for airfield use.

GROOVE STABILITY

Grooves are needed to prevent hydroplaning by displacing water from the surface and provide skid resistance on runways. The 6mm x 6mm grooves cut into airport asphalt were examined for closure under cyclical load using Austroads wheel tracking test procedure AG:PT/T231. The results show that Aeropave™ was best at minimising groove closure.

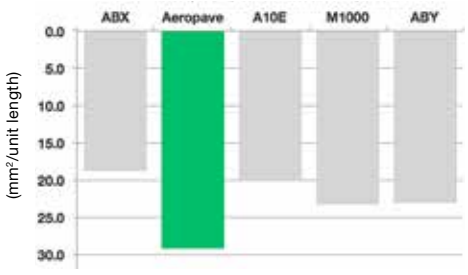

Fig1. Retained Groove Size

FUEL RESISTANCE

Fuel resistant asphalt can better withstand Jet and Avgas fuel spills and so reduce structural damage, delays and safety incidents caused if dislodged surfacing strikes an aircraft. Resistance to fuel was measured as mass loss in asphalt briquettes when soaked in kerosene for 7 days using Test Method EN 12697-43 – 2005. These results show that Aeropave™ outperforms all other binders typically used in airfield surfacings.

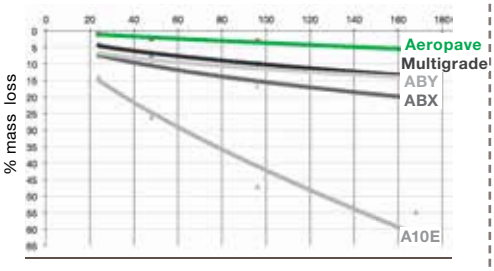

Fig2. Evaluation of Asphalt Fuel Resistance
Soak Period (in Kerosene) [hours]

Balance Performance Touchdown

There is general consensus that a score card weighting of performance attributes is necessary when selecting the most suitable binder for a runway surfacing. Aeropave™ has an excellent overall rating over the range of well investigated tests when it comes to satisfying the new challenges of modern military and civilian airports.

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STRUCTURAL ENDURANCE

Aircraft sizes are becoming bigger leading to heavier wheel loads on touchdown. New airport surfacings need to be designed with appropriate structural capacity and durability to meet performance and reduce maintenance. Testing for deformation, stability and crack resistance shows that Aeropave™ attributes compare well against typical binders in these situations.

DEFORMATION RESISTANCE

Resistance to deformation was measured using the Wheel Tracking Test under standard Austroads conditions. Aeropave™ gives excellent resistance to rutting compared to other binders typically nominated for airport pavements.

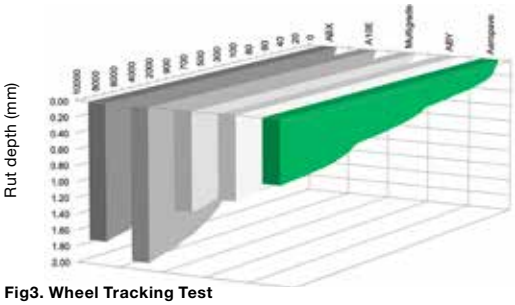

Fig3. Wheel Tracking Test

FATIGUE LIFE & AVOIDING CRACKS

Avoiding cracks is a known challenge facing airport managers and can lead to moisture ingress causing runway pavement failure as well as potential FOD seriously affecting aircraft. Aeropave™ is designed to provide the appropriate balance of fatigue life – an indicator of crack resistance - and deformation resistance compared to other binders nominated for Australian airport surfacings.

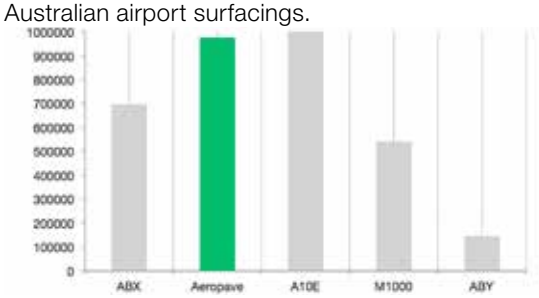

Fig4. Fatigue Life (Cycles)
[Truncated at 1M Cycles] (A10E Continues to 5.3 Million Cycles)

ASPHALT STIFFNESS

Resilient modulus is a measure of asphalt stiffness and its contribution to the structural capacity of the runway. Testing demonstrates that Aeropave™ contributes more to structural design than other typical airport binders.

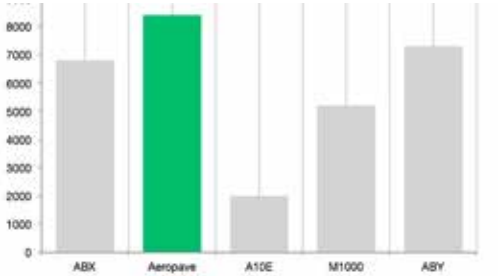

Fig5. Resilient Modulus (MPa)

MARSHALL PROPERTIES

Marshall Flow and Stability are properties traditionally included in airport specifications. The proper balance of stability, flow and the ratio of the two, known as the Marshall Quotient, can provide an indication of the propensity for distortion, plastic flow and internal resistance to shear. Aeropave™ has an appropriate balance of Marshall Properties in laboratory evaluations against similar products.

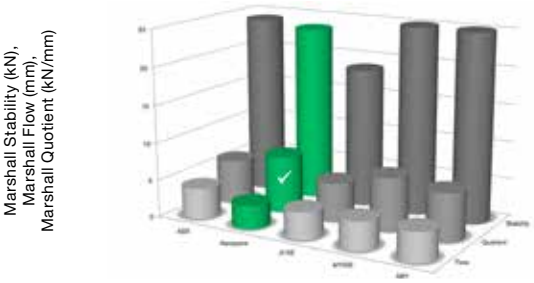

Fig6. Marshall Stability, Flow & Quotient

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At Boral we are committed to excellence in service so for further information please contact:

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Fig1, 3-6, tested by Boral Asphalt National Laboratories - September 2015.

Fig2 tested by Boral Asphalt National Laboratories - January 2011.

SDS: A Safety Data Sheet is available upon request by contacting Boral Asphalt customer service.
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