JetBind®

Technical brochure

JetBind™

Superior performance for grooved and ungrooved runways

In our local hot climate, aircraft-induced shear stresses can push asphalt stability to its limits. The result can be severe deformation of runway and taxiway surfaces as well as the irreversible loss of runway grooves.

What is JetBind?

JetBind is a specially developed bitumen binder used in asphalts for airport surfaces. JetBind generally fits into the A35P specification for polymer modified binders but exceeds key performance parameters without increasing fatigue susceptibility.

It has been designed in particular to withstand:

- High tyre pressures
- Channelised traffic
- Resistance to extreme temperature variations as experienced in Australian climates.

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JetBind™

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What sets JetBind apart?

JetBind offers superior performance over other premium asphalt binders on the market, including A10E, A35P, C600, in terms of flexibility, load spreading capacity and deformation resistance.

Using JetBind:

- Reduces risk of runway closure due to groove closure (reduced temperature susceptibility of JetBind)
- Reduces pavement thickness design (higher modulus of JetBind)
- Increases rut resistance without adversely impacting reflective cracking/fatigue resistance (higher stability of JetBind)
- Enhanced resistance to fuel spills.

Test results comparing different binders in a typical airport asphalt mix
(Asphalt mix: basalt aggregate 'airport specified' AC 14 with 1% lime)

	Binder Grade	
Tests	M1000	JetBind
Wheel tracking value *(mm at 10,000 Cycle/60°C)*	4.2	1.6
Resilient modulus *(at 25°C)*	4,070	6,175
Fatigue *(Cycles to failure: 50% at 400Hz/20°C)*	198,130	556,410

Asphalt manufactured with JetBind has less risk of rutting, is much stiffer and has greater resistance to fatigue cracking than the same asphalt manufactured with M1000.

How JetBind works?

JetBind increases the stiffness and strength of asphalt and at the same time improves its fatigue life in flexure when compared to using other premium binders commonly specified for airport surfacing. The unique blend of binder and customised additives in JetBind result in asphalt modulus values of 4000-6000 MPa again without reducing fatigue life. This compares favourably with typical A10E/A15E asphalt at 2000-3000 MPa and Multigrade asphalt at 3000-4000 MPa.

JetBind also increases rut resistance in asphalt. Wheel tracking tests showed asphalt with JetBind having 1-2mm ruts as opposed to typical A10/A15E asphalts between 2-3mm and Multigrade between 3-5mm. Even under hot weather conditions, slow-moving traffic or stationary aircraft, JetBind improves resistance to deformation and rut formation.

How to apply JetBind?

JetBind is incorporated into airport asphalt like any other polymer modified binder with no special handling or manufacturing requirements. The storage and transport requirements for JetBind are no different from other binders modified with plastomeric polymers.

Properties of JetBind result in superior performance over other premium asphalt products on the market.

For further information please email
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or contact your nearest Fulton Hogan office.
www.fultonhogan.com/contact_us