Barrier Bind

Helps to resolve these problems:

RUTTING

Barrier Bind Modified Binder is used in the manufacture of fuel-resisting asphalt.

Barrier Bind is a modified bitumen used in the manufacture of fuel resisting asphalt. This binder, when used in conventional asphalt mixes improves the fuel resistance of the asphalt mix to levels beyond that achievable with conventional bitumen based binders. The improvement in fuel resistance is accompanied by Barrier Bind's increased ability to withstand load at very low traffic speeds; as is experienced at fuelling stations for heavy vehicles.

Where to use Barrier Bind:

Barrier Bind is ideal for use in asphalt mixes where the asphalt must withstand fuel spills. Examples include fuel stops, container ports, airports, freight yards and terminal facilities.

Barrier Bind is recommended for use in asphalt mixes where the base over which the asphalt will be laid has low deflections (less than 1.0mm). This requirement for low deflections is related to Barrier Bind not having fatigue performance beyond that normally achieved with conventional bitumen based asphalt.

Benefits:

Barrier Bind offers the benefit of a modified binder with improved features as follows;

Fuel resisting properties, for resisting fuel spills

Improved rut resistance

Easy workability

The Barrier Bind binder provides a mix which is easy to lay and compact with conventional paving equipment using normal paving techniques.

Habitat

Port

Airport

Industrial

Specification

Typical Properties of Barrier Bind Spill Resistant

Property	Method	Specification
Softening Point	ASTM D39	60 – 80°C
Viscosity @ 165°C, 20rpm	AGPT/T132	<200 MPas

Health & Safety

Barrier Bind Spill Resistant binder is handled at elevated temperatures and all precautions should be taken, as for handling hot bitumen. Please refer to the Roading New Zealand "The Bitumen Safety Book" for advice on how to handle hot bitumen binders and to understand the risks involved in handling these types of materials. Full personal protective equipment must be used at all times when pumping, transferring or sampling of Barrier Bind Spill Resistant binder.

A safety data sheet for Barrier Bind is freely available on the Road Science website and must be read and understood prior to handling the Barrier Bind binder.

Properties:

Handling & Mixing Information

Dense Asphalt Mixes	
Maximum safe handling temperature for Barrier Bind binder:	180°C
The Barrier Bind binder should be circulated for at least 1 hour prior to commencing mixing in the asphalt plant.	
Mixing Binder Temperature	140°C – 150°C
Pumping Binder Temperature	150°C – 160°C

Storage Information

Barrier Bind	
Medium Term Storage Temperature (up to 5 days)	150 - 160°C
Long term storage temperature (beyond 5 days)	<150°C

Critical: Long storage

If there is a need to postpone manufacture beyond 5 days, the storage temperatures of the Barrier Bind should be dropped immediately to <150°C.
If there is considerable delay; it maybe economic to drop the product temperature to ambient and reheat when the binder is about to be used.

Critical: Rate of heating

The reheating of Barrier Bind, especially from cold, needs to be undertaken slowly with the rate of heating not exceeding 10°C per hour.

Pulsed heating cycles are preferred when using burner tubes.

Sampling

Samples should be taken following transfer from storage or transport.

Full PPE should be worn including face shield as the product is transferred at elevated temperatures and poses a major burns risk. It is important to ensure that the sample is representative and that any residual conventional bitumen is flushed out of the sample cock prior to collecting the Barrier Bind sample.

Testing should only be carried out by an IANZ registered laboratory that is experienced in handling and testing polymer modified binders.