



Fleximax Bind

Helps to resolve these problems:



Fleximax Bind Polymer Modified Binder is used in the manufacture of asphalt for extreme loading situation.

Fleximax Bind is a highly modified polymer based binder used in the manufacture of extreme rut resistant asphalt. This binder, when used in conventional asphalt mixes, improves the deformation resistance of the mix to levels well beyond that achievable with conventional bitumen based binders. The improvement in rut resistance is designed to withstand extreme loadings at very low traffic speed, as is experienced at airports, ports, container terminals & logging yards.

Where to use Fleximax Bind:

Fleximax Bind is recommended for use in all types of dense asphalt mixes and provides extreme performance in both fatigue resistance and rut resistance.

Fleximax Bind binder provides performance levels in terms of fatigue & rut resistance well beyond that achievable with all conventional bitumen or polymer modified binders.

Fleximax Bind is ideal for use in asphalt mixes where the asphalt must withstand extreme loading without rutting or shoving. Examples include container ports, airports, freight yards, log yards and slow crawler lanes designed for heavy commercial vehicles.

Benefits:

Fleximax Bind offers the benefit of a polymer modified binder with improved features as follows:

Exceptional rut resistance, especially under extreme load conditions.

Exceptional fatigue performance.

Greatly improved performance and life over all conventional bitumen based binders with regard to rut resistance & fatigue life.

The formulation of the Fleximax Bind binder has balanced superior long term performance properties with constructability. The Fleximax Bind binder, though mixed at elevated temperatures, provides a mix which is easy to lay and compact.

Habitat



Specification

Typical properties of Fleximax Bind

Property	Method	Specification
Softening Point	ASTM D39	>80°C
Torsional Recovery	AGPT/T154	60%
Viscosity @ 16°C, 20rpm	AGPT/T132	>400 MPas

Health & Safety

Fleximax Bind 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 Fleximax Bind.

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



Handling & Mixing Information

Dense Asphalt Mixes	
Maximum safe handling temperature	200°C
<i>The Fleximax Bind binder should be circulated for at least 2 hours prior to commencing asphalt mixing.</i>	
Mixing Binder Temperature	170°C – 195°C
Pumping Binder Temperature	170°C – 190°C

Critical: Fleximax Bind Handling Information

Fleximax Bind is a highly polymer modified product and is therefore highly viscous. This viscous nature means that Fleximax Bind is reluctant to move away from a heat source; hence there is a higher risk of "cooking" the polymer than would be experienced when handling conventional bitumen.

If the tank is fitted with an agitator, then this should be used when heating above 140°C. This will ensure good Fleximax Bind flow over the flame tubes, thereby reducing the likelihood of localised over-heating and product degradation.

Electric heating is always preferred over flame tubes for heating Fleximax Bind due to the lower surface temperatures.

Under no circumstances exceed 320°C on the flame tube surface.

Storage Information

Fleximax 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 Fleximax 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. If the binder is cooled to ambient, then the reheating cycle must follow the "Cold Start" procedure (see below).

Critical: Cold Start Heating Procedure

The following procedure must be followed when heating Fleximax Bind from cold or any temperature where the Fleximax Bind temperature is less than 100°C.

1. Check & ensure that the product level in the tank is at or above the minimum safe heating level.
2. Carry out all pre operation checks for the tank and burner/heating system.
3. Run the burner/heating system for a maximum of 15 minutes and switch off.
4. Leave the tank heating off for a minimum of 5 minutes.
5. Repeat steps 3 & 4 until the Fleximax Bind temperature exceeds 100°C.
6. Once the Fleximax Bind temperature is above 100°C the heating system can be run continuously to bring the product temperature up to the required working temperature.
7. Once the Fleximax Bind temperature is above 140°C turn on agitator.

Critical: Flushing of bitumen lines

Following the use of Fleximax Bind, all lines should be flushed with straight run bitumen to prevent any blockage due to the cooling of residual Fleximax Bind.

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 Fleximax Bind sample.

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