



USED FOR



Rutting



Cracking



Ravelling

ENVIRONMENTS



Ports



Industrial



Airports



Roundabouts
& Intersections



Motorway

FlexiMax Bind

FlexiMax Bind is a highly modified polymer-based binder specifically engineered to deliver exceptional rut and fatigue resistance in asphalt. When used in conventional asphalt mixes, it significantly enhances deformation resistance, providing superior protection against both rutting and cracking under extreme conditions.

Designed to perform in high-stress, slow-speed environments, FlexiMax Bind is ideal for demanding industrial applications such as airports, ports, container terminals, and logging yards - where heavy loads and frequent braking or turning movements accelerate surface wear. It is the top recommendation for preventing rutting and cracking when conditions may demand more than a FlexiPlus Bind.

High-performance polymer-modified binder for extreme loading situations

Treatment areas ideal for FlexiMax Bind

- Dense and gap graded asphalt mixes
- Extreme loading applications without rutting or shoving
- Applications include: Container ports, airports, freight yards, log yards, slow crawler lanes designed for heavy commercial vehicles

Benefits

- Long-lasting + long-term performance in extreme conditions
- Superior performance in fatigue and rut resistance
- Good workability and constructability ensuring ease of use
- Road Sciences premium asphalt binder for the highest stress situations.

Specification

Typical properties for FlexiMax Bind

Property	Method	Specification
Softening point (°C)	ASTM D36	90 °C min
Torsional recovery	AGPT/122	55% min
Viscosity @ 135 °C (mPa.s)	ASTM/D4402	3000 max

Properties



Polymer Modified



Hot Bitumen

Handling

For safe handling of bituminous materials, please refer to [Road Science's polymer modified bitumen safety data sheet](#), the table below, and [Best practice guideline: Safe Handling of bituminous materials used for roading \(BPG01\)](#)

FlexiMax Bind	
Normal safe handling temperature	180 °C
Maximum safe handling temperature	185 °C
Normal pumping temperature	170 - 185 °C

For mixing and compaction temperature guidance, refer to the [Road Science asphalt binder mixing and compaction temperatures](#) document.

Circulation

FlexiMax Bind should be circulated for at least 2 hours prior to commencing asphalt mixing.

Heating

The heating of FlexiMax Bind needs to be undertaken slowly with a rate of no more than 10°C per hour.

FlexiMax Bind is handled at elevated temperatures and all safety precautions should be taken. It 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 higher risk of "cooking" the polymer than what would be experienced when handling conventional bitumen.

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

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

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

Critical: Cold start heating process

FlexiMax Bind

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

1. Check and ensure that the product level in the tank is at or above the minimum safe handling 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 and 4 until FlexiMax Bind temperature exceeds 100°C
6. Once 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 FlexiMax Bind temperature is above 140°C, turn on the agitator

Storage

FlexiMax Bind	
Short term storage temperature (up to 2 days)	185 °C
Medium term storage temperature (3 to 5 days)	150 - 160 °C
Long term storage temperature (beyond 5 days)	150 °C max
Critical: Long term storage	
If there is a need to postpone manufacture beyond 5 days, the storage temperatures of FlexiMax Bind should be dropped immediately to <150°C. If there is considerable delay; it may be economic to drop the product temperature to ambient, then the reheating cycle must follow the 'Cold Start' procedure (see above)	

Equipment

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

Treatment Selection + Mix Design

If you're unsure which treatment solution is best suited for your project — considering factors such as traffic volumes and asset management — consult a member of the Road Science Product Development Team. They can assist in determining the appropriate treatment selection and guide you through the mix design process.

Sampling

Samples should be taken following transfer from storage or transport. For managing bitumen quality, please refer to the [Waka Kotahi NZ Transport Agency Q05 specification for managing bitumen quality report](#)

Need more information?

At Road Science, we're committed to providing innovative solutions backed by engineering expertise. If you have any questions about this product, need technical guidance, or want to discuss how it fits your specific project needs, our team is here to help. Contact us today for expert advice and tailored support. Contact us via **0800 180 200** or visit our website at roadscience.co.nz to learn more.

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