USED FOR

Ravelling

Rutting

ENVIRONMENTS

Industrial

Ports

Airports

Racetracks

ResistaMax Bind

High-performance polymer-modified binder for extreme shear resistance

ResistaMax Bind is a highly modified polymer-based binder engineered to deliver exceptional shear resistance in asphalt applications. Specifically designed for high-stress environments, it significantly outperforms conventional bitumen-based binders, providing unmatched durability and stability.

By enhancing shear resistance to extreme levels, ResistaMax Bind ensures superior performance in high-impact areas — particularly in racetrack asphalt wearing courses—where resistance to intense lateral forces and static loads is critical. It is an excellent choice for applications demanding extremely high static load resistance, offering outstanding protection against rutting and a substantial improvement in asphalt lifespan.

Treatment areas ideal for ResistaMax Bind use

- Low-deflection bases (less than 1.0 mm)
- Extreme shear resistance - preventing rutting and shoving
- Motor racetracks, go-kart tracks, and areas with extreme braking and cornering forces

Benefits

- Exceptional shear resistance
- Easy workability
- Superior shoving resistance
- Optimised for performance + constructability – Balances long-term durability with enhanced ease of application, making it a practical choice for demanding asphalt projects

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ResistaMax Bind

Specification

Typical properties of ResistaMax Bind

Property	Method	Specification
Viscosity mPas (at 135˚C 10rpm)	ASTM/D4402	3000 max
Softening point	ASTM D39	80˚C min
Density	ASTM D70	1029 (kg/l)

Properties

Handling

For safe handling of bituminous materials, please refer to the Best practice guideline: Safe Handling of bituminous materials used for roading (BPG01)

ResistaMax Bind	
Normal safe handling temperature	180˚C
Maximum safe handling temperature	185˚C
Pumping binder temperature	170˚C - 185˚C

For mixing and compaction temperature guidance, refer to Road Science asphalt binder mixing and compaction temperatures document.

Circulation

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

Heating

- Heating needs to be undertaken slowly with a rate of no more than 10°C per hour
- ResistaMax Bind is a highly polymer-modified product and is therefore highly viscous. The viscous nature means that ResistaMax Bind is reluctant to move away from a heat source; hence there is 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 ResistaMax 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 ResistaMax Bind due to the lower surface temperatures
- Under no circumstances should you exceed the 320°C on the flame tube surface

Critical: Cold start heating process

ResistaMax Bind

The following procedure must be followed when heating ResistaMax 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 ResistaMax Bind temperature exceeds 100°C
6. Once ResistaMax 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 ResistaMax Bind temperature is above 140°C, turn on the agitator

ResistaMax Bind

Storage

ResistaMax Bind	
Short term storage temperature (up to 2 days)	185˚C
Medium term storage temperature (3 to 5 days)	150˚C - 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 ResistaMax Bind should be dropped immediately to <150°C. If there is considerable delay; it may be economic to drop the product temperature to ambient and reheat when the binder is about to be used.	

Sampling

For managing bitumen quality, please refer to the Waka Kotahi NZ Transport Agency Q05 specification for managing bitumen quality report

Samples should be taken following transfer from storage or transport. Testing should only be carried out by an IANZ registered laboratory that is experienced in handling and testing polymer modified binders.

Equipment

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

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.