

Track Resistance and High Bond Strength



NanoTac is cationic bitumen emulsion additive that creates a permanent chemical bond between the bitumen emulsion and the underlying surface. Due to the formation of a permanent chemical bond, the tack coat is resistant to tracking, has very high bond strengths and can be used at lower residual bitumen contents.

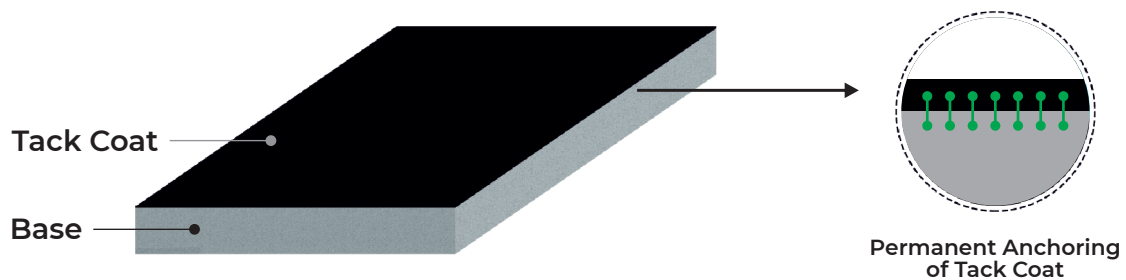
BENEFITS

- ✓ Track Resistance
- ✓ Uniform Coverage
- ✓ Improved Penetration
- ✓ High Bond Strength
- ✓ Lower Residual Bitumen
- ✓ Reduced Nozzle Clogging
- ✓ Finer Droplet Size
- ✓ Water Resistance
- ✓ Quick Setting

CHEMICALLY BONDED TACK COATS

NanoTac modified emulsions form a durable chemical bond between the bitumen and the underlying surface. The permanent anchoring of the bitumen ensures improved and homogenous load transfer between the various layers of the pavement, while significantly reducing the potential of the bitumen to track and be prone to moisture damage.

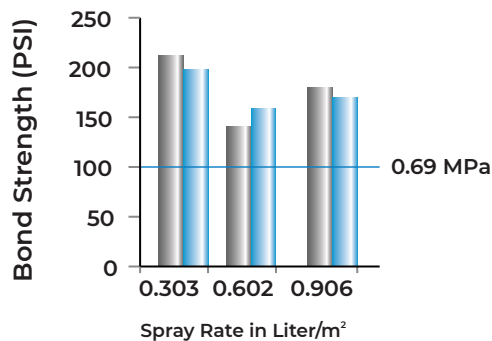
NanoTac also reduces the surface tension of CSS type emulsions significantly. This leads to improved wetting and coverage properties, quicker setting times and reduced droplet size of the emulsion.



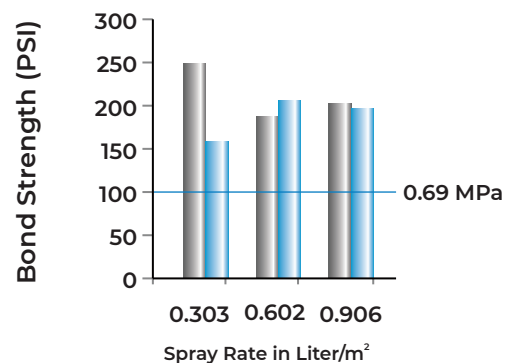
HIGH PERFORMANCE AT LOW BITUMEN RESIDUAL CONTENT

Due to the permanent chemical bond formed between the bitumen and underlying surface, emulsions that contain NanoTac achieve very high bond strengths, even at lower residual bitumen contents. This enables a significant cost saving on both milled and unmilled surfaces. NanoTac containing emulsions can be diluted to the extent of 20% residual bitumen content, while still maintaining very high bond strengths.

NEW SURFACE



MILLED SURFACE



Control - Residual Bitumen 30%

With NanoTac - Residual Bitumen 10%

MIXING, DOSAGE & APPLICATION

NanoTac is a water soluble additive that can be post added to the appropriate grade of tack coat bitumen emulsion (Cationic Slow Set Types) or be directly added into the soap phase during the emulsion manufacturing stage. NanoTac based emulsions can be diluted with water at the time of application as high bond strengths can be achieved at lower residual bitumen content. Dosage recommendation for diluted and non-diluted emulsion are provided below.

Emulsion Components	Non-Diluted Emulsion	Diluted Emulsion	
Cationic Bitumen Emulsion	100%	50%	33%
Water	0	50%	67%
NanoTac	0.8 - 1%	0.4 - 0.6%	0.3 - 0.5%

NOTE: When NanoTac is added into a diluted cationic slow set emulsion, the recommended method of mixing is to dilute the additive with water in a spray truck first, and then gradually add the tack coat emulsion to ensure homogenous mixing.

KEY BENEFITS COMPARISON

In addition to imparting track resistance to tack coats, NanoTac imparts the emulsion with myriad benefits including: improved wetting and coverage, smaller particle size, reduced nozzle clogging and faster drying.

Control	Parameter	With Nanotac
Poor	Stability of Emulsion	Improved
Clogged	Nozzles	Clean
Streaky	Spray	Uniform
Limited	Bond Strength	High
Limited	Water Permeability	Eliminated
Low	Track Resistance	High

STORAGE & SHELF LIFE

Store NanoTac between 5° - 45 °C (41° - 113 °F) in a shaded, dry area away from sunlight, heat, source of sparks, rain and standing water. Fasten the container lid securely after every use. Its shelf life is 48 months. In case the product freezes at low temperatures, allow it to thaw and melt.

ABOUT ZYDEX

Established in 1997, Zydex is a specialty chemicals company with the purpose of innovating for sustainability.

Beyond pavement products, Zydex offers a diverse set of chemical technologies for the textile, agriculture and civil construction industries. We were recently recognised as one of the 25 Most Innovative Companies in India by the Confederation of Indian Industries (CII).

Sustainable Green Chemistry

Zydex is deeply committed to sustainable chemistries that ensure a greener future for everyone. Our commitment has made us a pioneer in introducing non-polluting and non-hazardous technologies that conserve, protect and enhance the environment. Pursuing chemical innovations that would mean a greener, purer and more resource renewable world is our passion. Our technologies have been recognized by the International Road Federation (IRF), and have been globally adopted.

GLOBAL PRESENCE

