



### Track Resistant with High Bond Strength

NanoTac is a cationic asphalt emulsion additive that creates a permanent chemical bond between the asphalt emulsion and the underlying surface. Due to the formation of this chemical bond, the emulsion treatment is resistant to tracking, achieves high bond strength, eliminates water permeability, vastly improves emulsion stability, and can be used at lower residual contents.

NanoTac is currently formulated for cationic asphalt emulsion CSS-1 or CSS-1H. NanoTac reduces nozzle clogging, uniform spray application, faster setting, and excellent bond strength above 1.4 Mpa.

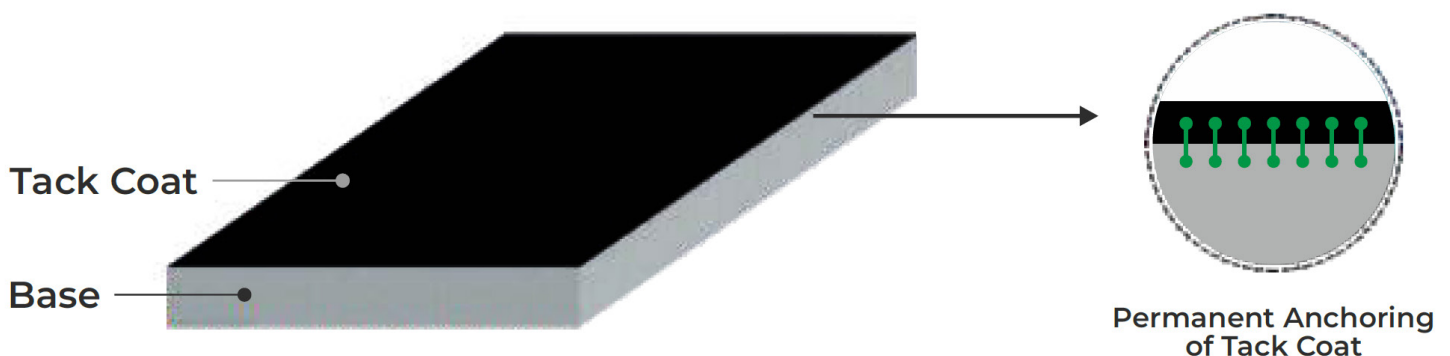
### Benefits of NanoTac:

- ✓ Track resistance
- ✓ Uniform coverage
- ✓ Improved penetration
- ✓ High bond strength
- ✓ Lower residual asphalt content
- ✓ Reduced nozzle clogging
- ✓ Finer droplet size
- ✓ Water resistant
- ✓ Quick setting
- ✓ Improved emulsion stability



### Chemically Bonded Emulsion Treatments

NanoTac enhanced emulsions create a durable chemical bond between the asphalt emulsion and the underlying surface. This permanent anchoring of the emulsion ensures complete and homogenous load transfer between the various layers of the pavement. NanoTac significantly reduces the potential of tracking and minimizes moisture damage.

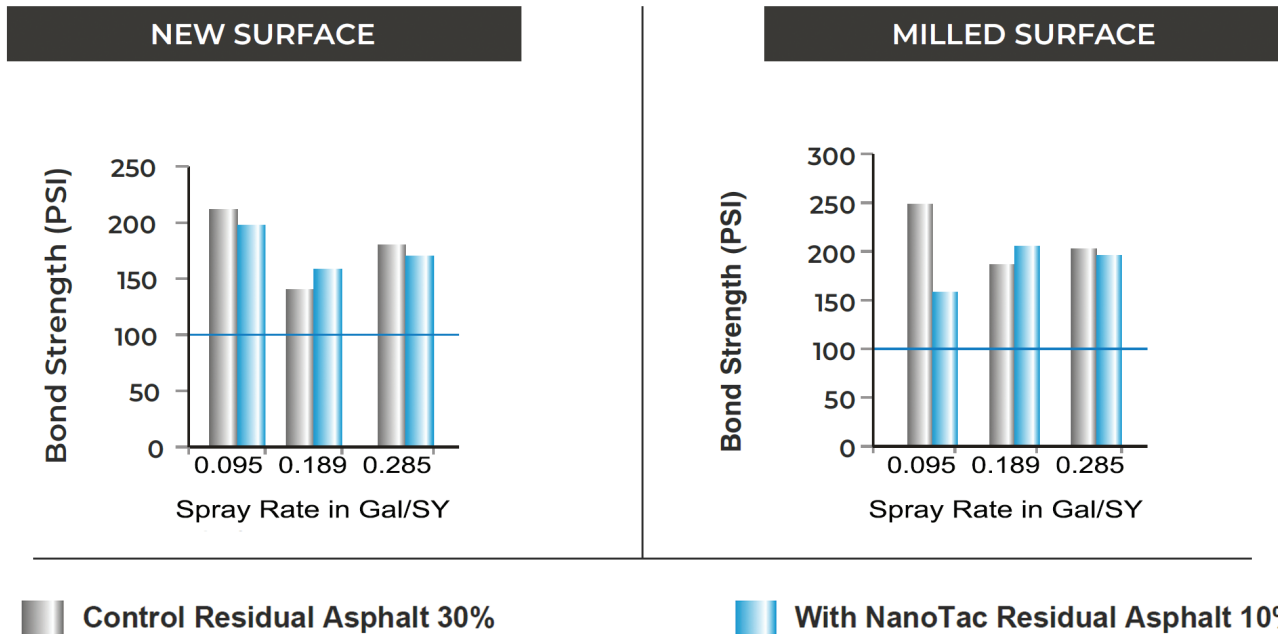


Additionally, NanoTac is designed to reduce the surface tension of CSS type emulsions, which leads to improve wetting and coverage properties, quicker setting times and reduced droplet size of the emulsion.



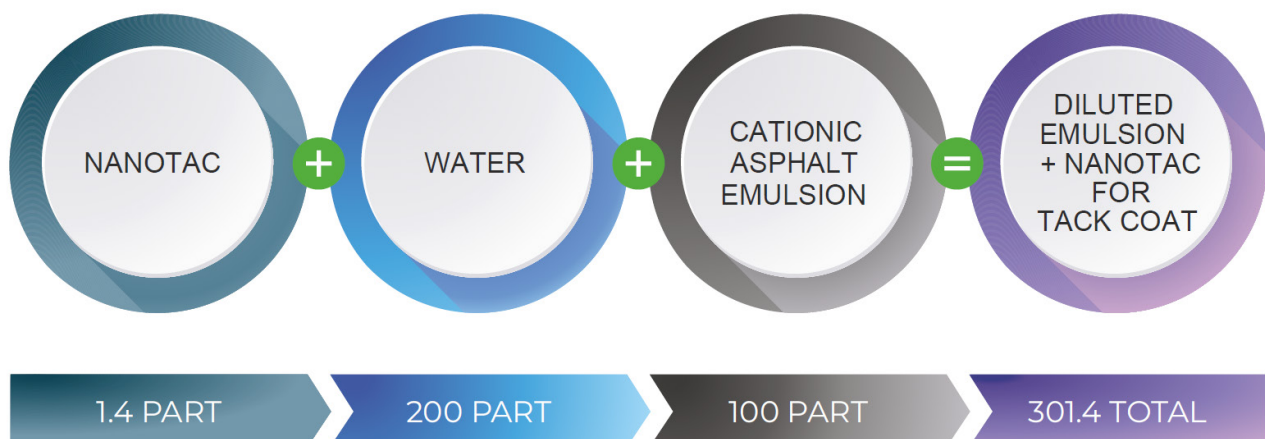
### High Performance at Low Bitumen Residual Content

Due to the permanent chemical bond formed between the asphalt and underlying surface, emulsions that contain NanoTac achieve high bond strength even at lower residual asphalt contents. This enables a significant cost-savings on both milled and unmilled surfaces. Emulsions containing NanoTac can be diluted to 20% residual asphalt content while maintaining a high bond strength.



### Mixing Dosage & Application

NanoTac is water-soluble and can be directly added at the soap phase of the emulsion manufacturing process or post added into the appropriate grade of emulsion (Cationic Slow Set types). NanoTac's high bond strength is achieved at lower residual asphalt content. Dosage recommendation for the diluted emulsion is provided below.



When NanoTac is post added into a diluted cationic slow set emulsion is generally recommended to dilute the additive with water into the spray truck first, followed by a gradual addition of the emulsion to ensure homogenous mixing.



### Key Benefits Comparison

NanoTac impacts the emulsion with a myriad of benefits including improved wetting and uniform coverage, smaller particle size, reduced nozzle clogging and faster drying times.

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 and Shelf Life

Store NanoTac between 41°F-113°F (5°C-45°C) in shady dry areas away from direct sunlight, heat, spark sources, rain or standing water. Fasten the container lid securely after use. Shelf life is 48 months. Should the product freeze, allow it to thaw before use.

### About Zydex

NanoTac is a product of Zydex Industries. All States Materials Group is a licensed distributor of NanoTac and other Zydex pavement products. 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, agricultural, and civil construction industries.

### Sustainable Green Chemistry

Zydex is deeply committed to sustainable chemistries that ensure a greener future for everyone. This commitment has made Zydex a pioneer in introducing non-polluting and non-hazardous technologies that conserve, protect and enhance the environment. Zydex technologies have been recognized by the International Road Federation (IRF) and have been globally adopted.

