

## QUICK SET, ALMOST ELIMINATES TIRE PICK UP, NO NOZZLE CLOGGING

Nanotac silane nanotechnology is a reactive bonding technology. It forms alkyl siloxane (Si-O-Si) bonds to create asphalt loving aggregate surface and ensure trackless tack coat using water based cationic bitumen emulsion.

Nanotac resolves the following critical issues

- Spotty, uneven tack coat which reduces the area for load transfer, causing higher stress leading to premature cracking and fatigue failures
- Large bitumen droplets leading to thick film causing slippage on application of brakes
- Bond failures due to water seepage compounded by the water sensitive dust / stone powder, which delaminates the asphalt film and is the root cause of bond failures
- Long setting time of 2 - 4 hours

## NANOTAC BENEFITS

- Eliminates Nozzle clogging
- Almost zero tire pick up
- Higher surface coverage at reduced bitumen consumption
- Excellent bond strength
- Reduced slippage
- Substantially reduced moisture susceptibility

### ▶ REDUCED SURFACE TENSION OF BITUMEN EMULSION



Control - Larger droplets



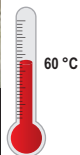
With Nanotac - Smaller droplets

Reduces droplet size and improves spray coverage. Decreases bitumen emulsion

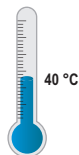
### ▶ TEMPERATURE & TIME SAVING



Control - Clogged nozzles. Spluttered spray at 60 – 70 °C

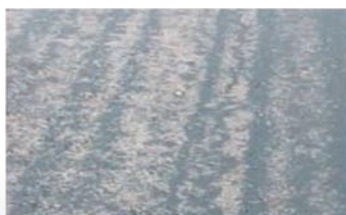


With Nanotac - Clean nozzles. Uniform spraying at 40 – 50 °C



Lowers heating temperature and saves time

### ▶ EXCELLENT WETTING



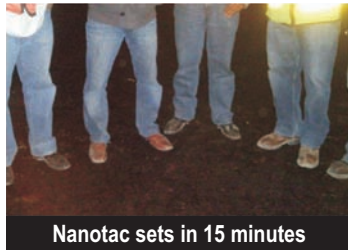
Control



With Nanotac

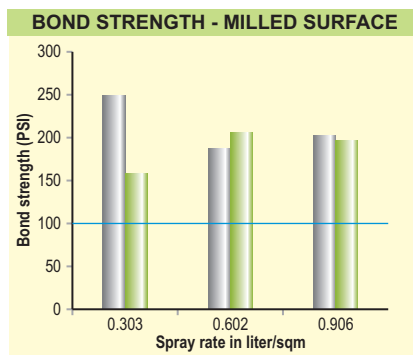
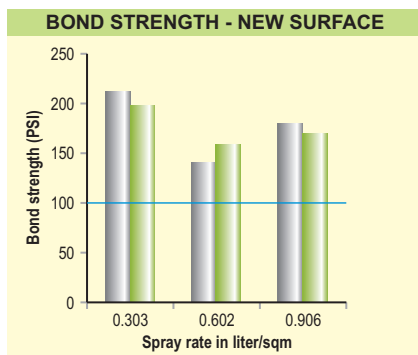
Lowers surface tension of cationic bitumen emulsion, improved surface coverage for same spray rate

## ► QUICK SETTING WITH NO TIRE PICK UP



- Sets quickly in 15 - 30 minutes with no tire pick up
- No need to clean the tire marks on old pavements
- Eliminates wind shield breakages due to stone chips flying off sticky tires

## ► OPTIMIZES BITUMEN EMULSION



- Substantial reduction in asphalt film thickness due to better wetting and spreading
- Maintains bond strength with lower residual bitumen content
- Bond strength value consistently above 150 PSI (Spec 100 PSI)

■ Control - Residual bitumen 30 %    ■ With Nanotac - Residual bitumen 10 %

## DOSAGE

Tack coat	Cationic Bitumen Emulsion (60 %)			Added Water	Total Water	Nanotac (1% of Total Water)	Total Tack Formulation	Residual bitumen Content (%)
	Bitumen	Water	Total					
Conventional	1200	800	2000	2000	2800	–	4000	30
Nanotac	800	534	1334	2666	3200	32	4000	20
Nanotac	400	267	667	3333	3600	36	4000	10

## MIXING PROCESS

- Start re-circulation of cationic bitumen emulsion
- Add water followed with Nanotac, continue re-circulation for 10-15 minutes
- Spray the Mix

## STORAGE AND SHELF LIFE

Nanotac should be stored between 5 – 45 °C (41 – 113 °F) in a shaded, dry area away from sunlight, heat, ignition, source of sparks, rain and standing water. The container lid should be securely fastened every time it is used. Its shelf life is 24 months.

## ZYDEX : SUSTAINABILITY THROUGH INNOVATION

<b>ZycoTherm / Zycosoil</b> Warm / Hot Mix	<b>Nanotac</b> Tack Coat	<b>Terraprime</b> Prime Coat	<b>Terrasil</b> Soil Waterproofing
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