

The Future of Pavement Maintenance and Preservation

Polymer/Water-Based Alternatives to
Asphalt Sealants

Yetkin Yildirim, Ph.D., PE



Introduction

Terra Pave International

- Research and IP from UT Austin
 - cutting edge polymer technology
 - Marketing studies
- High Performance
- Cost-effective
- Eco-friendly
- constructing and maintaining
 - roadways, parking lots, airfields, and all other traffic-bearing surfaces.



Introduction

TPI is promoting

- sustainability and revolutionizing the field of pavement materials.
- TPI has developed many variations on their materials which are specifically engineered to address the many different types of distresses which occur in aging pavement structures.

Terra Fog (fog seal)

Terra Fog extends the service life of asphalt pavements and forestalls drastic maintenance, such as resurfacing and seal coating, by preventing water from infiltrating the base. Terra Fog enriches and maintains dry asphalt pavements by:

- Preventing asphalt oxidation
- Renewing surface appearance
- Sealing small cracks and loose particles
- Strengthening the pavement's structural matrix

Terra Fog City of Austin Test Section



← Fresh Terra Fog atop a
Chip Seal

Fresh Terra Fog atop →
old, oxidized asphalt



Terra Fog City of Austin Test Section

Three months later: Chip Seal application

vs.

Chip Seal application with Terra Fog overlay



Terra Fog



Environmentally Safe

Superior Strength

Cost-effective

Impermeable

Rapid Curing

Terra Fog City of Austin 1st street Test Section



Terra Fog City of Austin 1st street Test Section

Section with Terra Fog



Section without Terra Fog



Chip seal section with Terra Fog did not loose any aggregate, whereas section without Terra Fog lost significant amount of aggregate less than one year after construction

Terra Fog - S 1st Street

Section with Terra Fog

Section with Terra Fog

Section without Terra Fog





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President & CTO

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Yetkin,

This is a letter to confirm what we discussed about use of Terra Fog on TxDOT projects. As you know we've used Terra Fog on projects and spot work in San Antonio and Austin, and I've also seen the applications by the City of Cedar Park. All of these appear to have worked well and seem to be good treatments.

I'd be interested in seeing the product used on some TxDOT projects in other locations, and getting feedback from the TxDOT users on the application. Of course we don't have a statewide specification for this type of material yet; these projects would feed into the process of rolling a spec out.

So, if you identify TxDOT Districts who are interested in Terra Fog, I would encourage them to use it on a trial basis. Please ask them to contact me, and I can provide additional information and a draft specification on request.

As always, contact me any time.

Gerald D. (Jerry) Peterson, P.E.

Asphalt, Chemical and Calibration Branch Manager

Construction Division

OUR GOALS

MAINTAIN A SAFE SYSTEM • ADDRESS CONGESTION • CONNECT TEXAS COMMUNITIES • BEST IN CLASS STATE AGENCY

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Conclusion

Terra Pave International's line of eco-friendly, polymer/water-based Terra Fog provide solutions to a wide variety of pavement maintenance challenges by

- Preventing asphalt oxidation
- Preventing aggregate lost for chip seals
- Renewing surface appearance
- Sealing small cracks and loose particles
- Strengthening the pavement's structural matrix

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