



The Future of Pavement Preservation

Polymer/Water-Based Alternatives to
Asphalt Sealants

Introduction



Terra Pave International, in conjunction with the University of Texas at Austin, has developed cost-effective, eco-friendly, polymer materials for constructing and maintaining roadways, parking lots, airfields, and all other traffic-bearing surfaces.

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.

Envirotx has teamed up with TPI to commercialize these innovative products to DOTs, cities, counties, paving and roadway contractors, and all market sectors involved in surface transportation activities.

Polymer-based Materials

The Envirotx line of polymer sealant materials address most aspects of pavement construction and maintenance, from the road base to the wearing course:

1. *New construction*
2. *Early maintenance/Pavement preservation*
3. *Proactive and Reactive maintenance*
4. *Unpaved roads*

1. New construction

- **Prime Coat** – *Envirotx Prime*
- **Soil and Base Stabilizer** – *Top-Seal White/Black*

2. Pavement preservation – preventative maintenance

- **Fog Seal** – *Envirotx Fog*
- **Superior Chip and Fines retention** – *Envirotx Fog*
- **Superior Moisture and UV Resistance** – *Envirotx Fog*

3. Unpaved roads

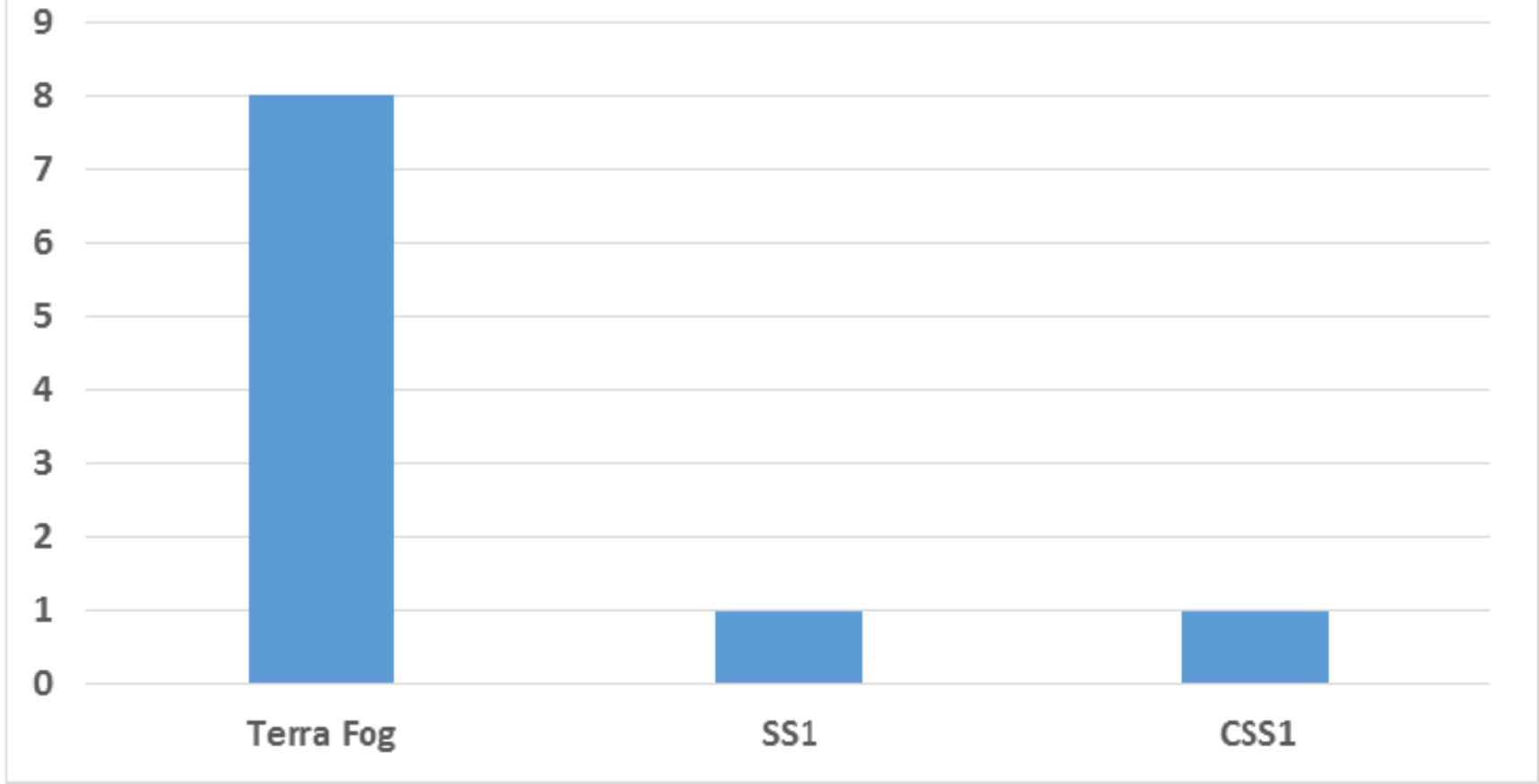
- **Gravel Road Solidification** - *Top-Seal White/Black*
- **Dust Control Agent** – *Top-Seal White/Black*
- **Wearing Surface** – *Top-Seal Black*

Envirotx Fog (fog seal)

Envirotx Fog extends the service life of asphalt pavements and forestalls drastic maintenance, such as resurfacing and seal coating, by retarding loss of surface fines and chips, and preventing water penetrating the surface and infiltrating the base. Terra Fog enriches and maintains dry asphalt pavements by:

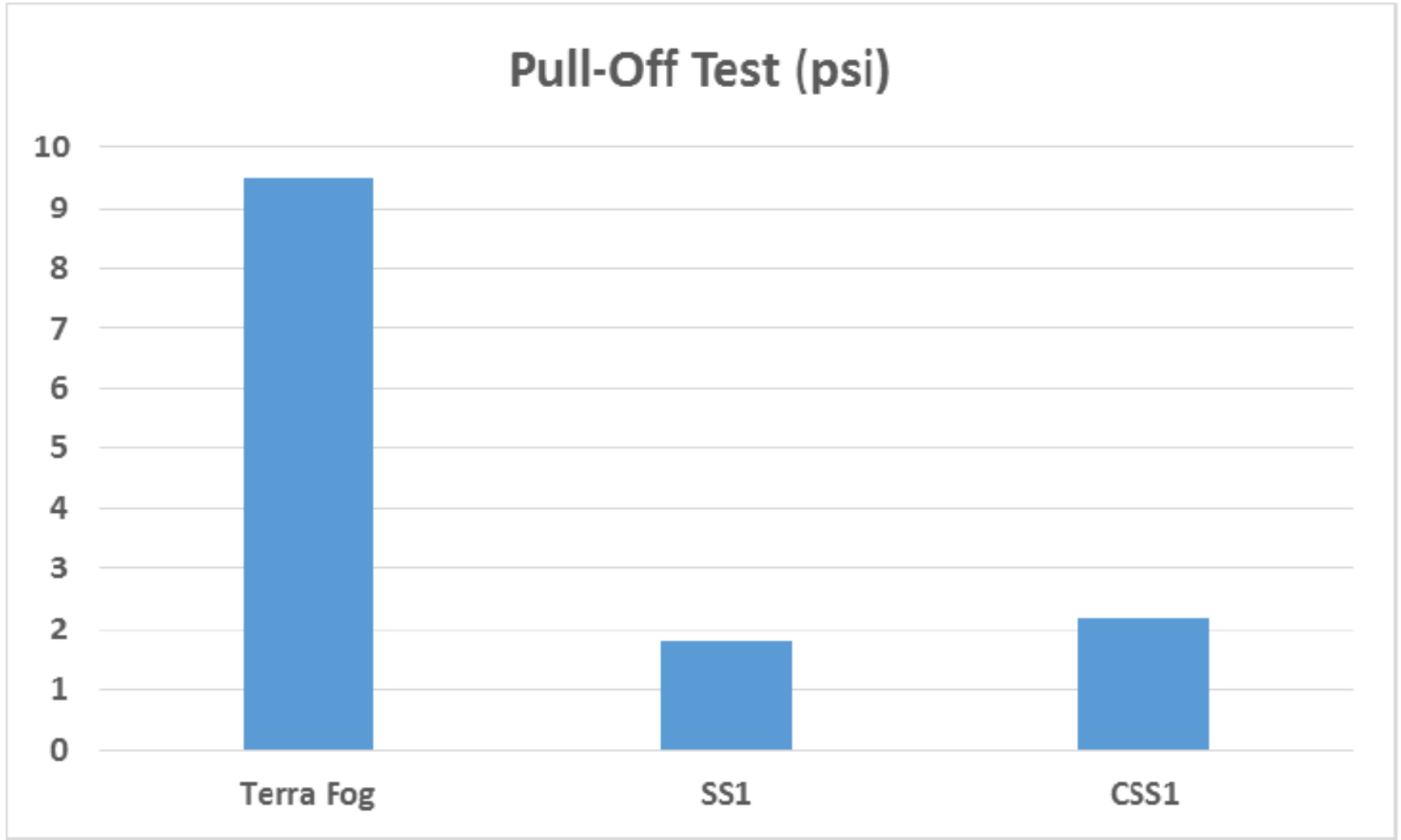
- Preventing asphalt oxidation
- Renewing surface appearance
- Sealing small cracks and binding loose particles
- Strengthening the pavement's structural matrix

Sand Penetration Test (mm)



Sand Penetration Test Results for CSS1, SS1 and Terra Fog

Pull-Off Test (psi)



Pull-Off Test Results for CSS1, SS1 and Terra Fog

Envirotx Fog City of Austin Test Section



← Fresh Envirotx Fog atop
Chip Seal

Fresh Envirotx Fog atop →
old, oxidized asphalt



Envirotx Fog City of Austin Test Section

Three months later: Chip Seal application

vs.

Chip Seal application with Envirotx Fog overlay



Envirotx Fog



Environmentally Safe

Superior Strength

Cost-effective

Impermeable

Rapid Curing

Envirotx Fog City of Austin 1st street Test Section



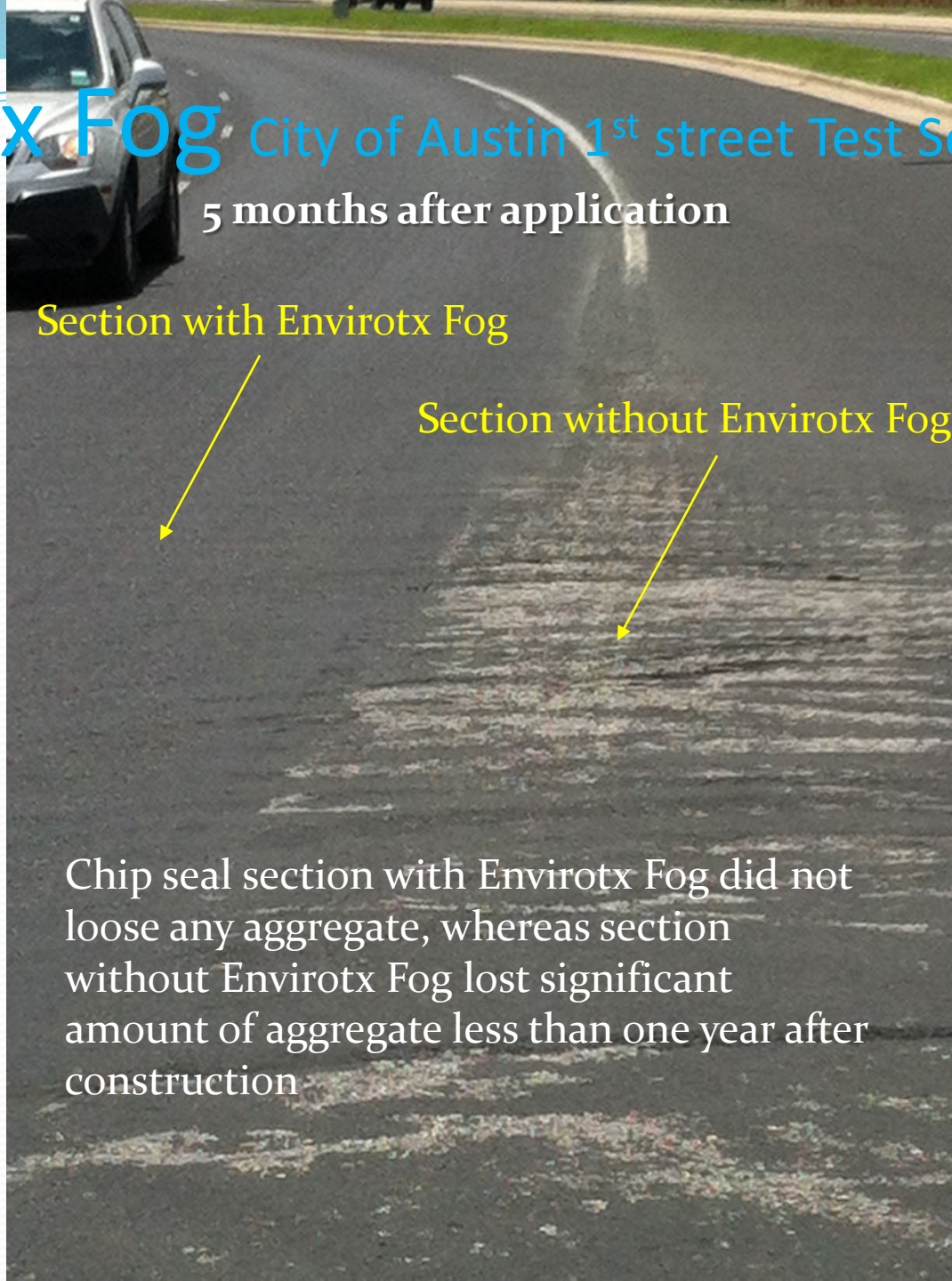
Envirotx Fog City of Austin 1st street Test Section

5 months after application

Section with Envirotx Fog

Section without Envirotx Fog

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



Envirotx Fog - S 1st Street

Outside lane application



Envirotx Fog - S 1st Street



Duncan, Daren

Apr 20 (2 days ago)

We placed Terra Fog March 2014 in Austin, TX over a new chip seal on South First street from W Slaughter south to the bridge over Slaughter Creek. Since the striping had just been replaced, we only placed the Terra Fog in the travel lanes. It has now been in place for two years and the effects are still evident in Google street view. At locations with turning movements the untreated chip seal is peeling off but the peeling is reduced or eliminated at the treated seal coat. The Terra Fog is holding the chips in place. At locations with significant construction traffic, the fog sealed areas are damaged, but not as significantly as the untreated chip seal.

We believe this treatment can extend the life of our chip seal program.

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Conclusion

Our eco-friendly, polymer/water-based **Envirotx Fog** provides solutions to a wide variety of pavement maintenance challenges by

- Preventing asphalt oxidation
- Installs and maintains deep black color
- Preventing aggregate raveling (lose of fines and chips)
- Renewing surface appearance
- Sealing small cracks and binding small particles
- Strengthening the pavement's structural matrix

