

Case Study



Plainfield, Indiana 2018-2024

**Project:**

Plainfield, Indiana 2018-2024

Location:

Stafford Road Plainfield, Indiana

Duration:

Summer 2018-2024

Contractor:

Milestone Contractors LP

Client/Owner:

Plainfield, Indiana

Consultant/Engineer:

Milestone Contractors LP

Surface Tech Product:

ACE XP

Comparative Results After Seven Years

The pavement's performance was assessed annually for seven years through manual surveys conducted by Site Supply and a detailed site survey by BATT in May 2024.

Crack Resistance Results

A comparison of transverse cracking (feet per 1,000 lineal feet) revealed:

Control Section: Cracking progressed at a rate of 128.2 ft/1,000 ft per year.

ACE XP Section: Cracking was limited to 10.7 ft/1,000 ft per year, demonstrating an 88% reduction in cracking.

Pavement Condition Index (PCI)

BATT performed a Pavement Condition Index (PCI) survey in November of 2024, which highlighted:

CONTROL SECTION: PCI OF 72 AFTER SEVEN YEARS.

ACE XP SECTION: PCI OF 85, REFLECTING A 13-POINT IMPROVEMENT AFTER SEVEN YEARS.

Project Scope & Objectives

In 2018, the Town of Plainfield, Indiana, collaborated with Milestone Contractors LP of Indianapolis and Surface Tech, to enhance pavement performance on an industrial service road near the Indianapolis airport. The goal was to control cracking and extend the pavement life of Stafford Road.

Milestone's crew completed milling and placement of a 2-inch overlay on June 27-28, 2018.

The project featured two sections:**Control Section:**

PG76-22 binder in the passing lane.

ACE XP Section:

PG76-22 binder enhanced with ACE XP aramid fibers in the truck lane.

Surface Tech Contact:

312 S. Cedros Ave., S200, Solana Beach, CA 92075

+1-619-880-0265

info@surface-tech.com

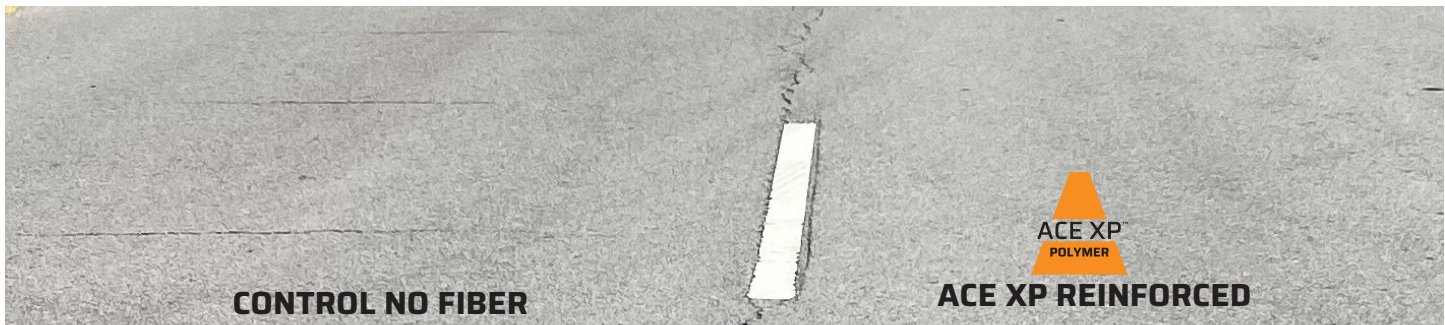
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Case Study

Comparative Results After Seven Years

The pavement's performance was assessed annually for five years through manual surveys conducted by Site Supply and a detailed site survey by BATT in May 2024.



**Savings
per lane mile**
26%

**Additional
Expected
Service Life**
40%

1.8 Miles		COST		Years Left		
No Fiber PG 76-22	\$278,327	X	10	\$2,783,270		\$278,327
	10	Expected Service Life		10		COST 1.8 MILES
		COST		Years Left		
Aramid Fiber PG 76-22	\$308,690	X	10	\$3,086,900		\$220,493
	14	Expected Service Life		14		COST 1.8 MILES
Savings Per Lane Mile						-26%
Additional Expected Service Life						40%
Break even year with ARCA						
	\$308,690	X	10	\$3,086,900		\$308,690.00
	10	Expected Service Life		10		

Conclusion

The Stafford Road project showcases the benefits of ACE XP aramid fiber to enhance pavement performance.

Extended Service Life: The ACE XP section outperformed the control section, with reduced cracking and a service life extension of more than four years.

Cost Efficiency: Delayed maintenance and reconstruction allow municipalities to allocate budgets to other projects.

Improved PCI Scores: Higher PCI ratings indicate better long-term pavement conditions, reducing life-cycle costs. This case study demonstrates the efficacy of ACE XP aramid fiber in addressing cracking and extending pavement life in high-traffic areas. The Town of Plainfield's investment in innovative pavement solutions underscores the value of Surface Tech's technology in achieving durable and cost-effective infrastructure improvements.

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