Case Study



Love's Travel Stores

Project: Loves Travel Stores

Location: Sadieville, KY

Duration: 2015-2024

Team: Surface Tech / Site Supply

Customer: Loves Travel Stores

Surface Tech Product: ACE XP

Project Scope & Objectives

In 2015, Love's Travel Stops were constructed new single dose of ACE XP in the Sadieville, KY location experiencing significant traffic volumes, with over 1,000 cars and semi-trailer trucks passing daily.

Increased Durability:

ACE XP-reinforced asphalt showed improved resistance to the typical distresses associated with high-traffic areas, such as rutting and cracking, thus increasing the pavement's service life.

Cost-Effectiveness:

By reducing the need for repairs and maintenance, the extended service life of ACE XP-reinforced asphalt ultimately leads to lower long-term costs for asphalt owners.

Environmental Impact:

Long-life, low-carbon solution, contributing to a more sustainable approach to pavement construction.

POLYMER Loves 4.0 ACRES Years Left COST \$164,221 x \$1,642,210 **RSL Value No** \$164,22 10 Fiber Expected Service Life 10 соѕт 10 Years Left COST PG 64-22 RSL x \$1,705,370 \$121,812 \$170.537 10 Value Aramid COST Fiber 14 Expected Service Life 14 -35% Savings 40% Additional Expected Service Life

Savings per acre 35% Additional Service Life 40%



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Challenges Overcome

This site was subjected to significant stress due to the high volume of heavy vehicles. After 10 years.

High-Stress Areas: The turning lanes and entrances remain in excellent condition with no signs of cracking or rutting.

Light-Duty Areas: Only minimal cracking at the cold joints was observed, while the overall pavement condition remained strong.

Transitions at Manholes and Catch Basins: Only minor deformation and cracking were observed at these critical points.

Results After Ten Years 2024 PCI Survey

PCI ACE XP ARAMID FIBER 85 PCI CONTROL NO FIBER 70

Loves Truckstop (Sadieville, KY, 2015)



70

85

Performance After 10 years

High-Stress Areas

Condition: Turning lanes and entrances subjected to constant braking and turning stress remain in excellent condition. Observations: No visible signs of cracking or rutting after a decade of continuous use.

Light-Duty Areas

Condition: Pavement in parking and less-trafficked areas shows minimal wear. Observations: Only minor cracking was observed at cold joints, with the overall pavement integrity holding strong.

Transitions at Manholes and Catch Basins

Condition: Critical points around manholes and catch basins showed only minor deformation and cracking. Observations: The stability in these areas highlights ACE XP's ability to reinforce asphalt in challenging transition zones.

Key Takeaways

Significant Cost Savings:

Aramid fiber reduces total life-cycle costs by 50%-67%, making it a cost-effective solution for high-traffic commercial parking lots.

Reduced Maintenance Needs:

Crack sealing, pothole patching, and seal-coating costs are reduced by 70% from Years 5-13, saving significantly on recurring expenses.

Extended Pavement Life:

With fewer structural failures and deferred major repairs, pavement life is extended beyond 14 years with minimal maintenance requirements.

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