

Case Study



ARMI Interlayer-New Brunswick, Canada

**Project:**

ARMI Interlayer New Brunswick, Canada

Location:

New Brunswick, Canada

Duration:

Summer 2024

Contractor:

Northern

Client/Owner:

New Brunswick, Canada

Consultant/Engineer:

Matt Sweezie, P.Eng.

Surface Tech Product:

ARMI

What We Did

Collaborated with local contractors and material suppliers, including Northern, Michael Simons, P.Eng., and Bird Stairs, to oversee the precision production and placement of the ARMI interlayer.

Integrated Surface Tech's proprietary aramid fibers into the asphalt mix, ensuring quality dispersion and maximum reinforcement benefits.

Monitored on-site operations closely, led by Bird Stairs and Blankenship Asphalt Tech & Training (BATT), to ensure that the mix was correctly produced at the plant and properly laid on-site.

Delivered a durable, flexible interlayer that reduces reflective cracking and enhances the long-term performance of the roadway.

By using the ARMI interlayer, this project not only delivered long-lasting pavement performance but also resulted in significant time and cost savings for the local government. With reduced disruption to traffic and a more efficient construction timeline, the ARMI interlayer proves to be the optimal solution for overlays on deteriorated concrete conditions.

Project Scope & Objectives

The third installation of Surface Tech's ARMI (Asphalt Reflective Crack Mitigation Interlayer) in New Brunswick, Canada, represents a major innovation in addressing reflective cracking. This project covered 6.6 kilometers of deteriorating concrete roadway that would have otherwise required a costly and time-intensive remove-and-recycle rebuild. Instead, the ARMI interlayer provided a highly economical, long-term solution, mitigating the need for a full rebuild while offering superior crack resistance and extended pavement life.

The project, led by Matt Sweezie, P.Eng., and expertly executed by Northern, showcased the effectiveness of Surface Tech's fiber-reinforced technology in creating durable overlays.

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Economic & Environmental Advantages

This 6.6-kilometer overlay project in New Brunswick is a model for how Surface Tech's ARMI interlayer can transform deteriorating concrete surfaces into long-lasting, cost-effective roadways. With significant savings in time, materials, and labor, alongside the improved sustainability of reduced raw material consumption and lower carbon emissions, the ARMI interlayer is proving to be the ideal solution for tackling reflective cracking in existing road infrastructure.



Economic & Environmental Advantages

Cost Efficiency & Maintenance Reduction: In this project, Surface Tech's ARMI interlayer was applied over 6.6 kilometers of deteriorated concrete, a stretch of road that previously faced costly remove-and-recycle rebuild options. By opting for the ARMI interlayer instead of a complete rebuild, the project achieved significant savings in both time and materials. This crack-resistant asphalt overlay offers long-term benefits by extending pavement life and reducing the need for frequent maintenance or repairs. The interlayer solution is especially effective for overlays on deteriorating concrete, mitigating the need for costly removal and recycling processes, ultimately saving on both labor and materials.

Extended Pavement Life: The ARMI interlayer, integrated with aramid fibers, enhances the flexibility of the asphalt by more than tenfold compared to typical asphalt mixes. This increased flexibility allows the overlay to better absorb stresses from traffic and environmental changes, particularly on concrete surfaces prone to reflective cracking. With this interlayer, the roadway's lifespan is extended, and the need for rehabilitation is minimized, ensuring long-term economic benefits and reduced infrastructure maintenance costs.

Sustainability: By reducing the need to remove and recycle the existing concrete, this project conserved both raw materials and energy. The sustainability benefits extend to the reduced emissions associated with asphalt production and transportation. Additionally, the long-lasting nature of the ARMI interlayer means fewer replacements will be needed, minimizing waste and environmental impact.

Time and Traffic Savings: The ARMI interlayer installation over the existing concrete not only saved on construction costs but also reduced the time needed to complete the project. Avoiding the lengthy process of removing and recycling the old pavement allowed traffic disruptions to be minimized. This led to significant cost savings in terms of traffic management and minimized delays for road users, enhancing overall public satisfaction.

Contributing to a Circular Economy: Surface Tech's ARMI interlayer plays a crucial role in contributing to a circular economy by extending the life of the existing concrete road and reducing the need for new materials. This leads to a decrease in future emissions and supports long-term sustainability in infrastructure development. The project demonstrates how innovative asphalt technologies can provide an economical and sustainable solution for deteriorating concrete conditions while ensuring time savings during road construction.

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