

Fabric Reinforcement To Prevent Reflection Cracking

SR-5, Contract 0414
Cowlitz River to SR-506 I/C

WA-RD 175.1

Final Report
February 1989



Washington State Department of Transportation
Planning, Research and Public Transportation Division

in cooperation with the
United States Department of Transportation
Federal Highway Administration

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16. ABSTRACT The two fabric reinforcement products, Petromat and Mirafi 140, placed between a 0.35 ft. overlay of asphalt concrete and an existing PCC pavement have successfully prevented the occurrence of transverse reflective cracking for the 11 year period since completion of the overlay.			
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Cowlitz River to SR-506 I/C

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Experimental Feature WA-78-01 & WA-78-01A
Final Evaluation Report

Prepared for

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
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FEDERAL HIGHWAY ADMINISTRATION

FINAL REPORT

Experimental Project WA 78-01 & WA 78-01A

FABRIC REINFORCEMENT TO PREVENT REFLECTION CRACKING

Summary

An experimental installation of fabric reinforcement was placed on 1.5 miles of SR-5, M.P. 59.20 to M.P. 60.86, just north of the Cowlitz River in southwest Washington.

The existing roadway was originally surfaced with PCC pavement. The grade through this section is fairly steep as the highway climbs out of the Cowlitz River valley. The northbound or uphill roadway pavement had experienced faulting with some minor cracking. The project involved the widening of the existing pavement for a truck lane, then resurfacing the entire northbound roadway, shoulder to shoulder, with approximately 0.35 ft of asphalt concrete pavement. Fabric reinforcement was placed over the existing outside lane of PCC pavement after subsealing in an attempt to prevent reflective cracking.

Two fabrics were installed on this project. Petromat, a fabric manufactured by Phillips Fiber Corporation, was used throughout most of the project with the exception of a 1000 foot section between station 681+50 (M.P. 59.51) and station 691+50 (M.P. 59.70). Mirafi 140, a fabric manufactured by Fiber Industries (a subsidiary of Celanese Corporation), was installed in this section. The performance of each fabric was monitored from date of installation, July 6, 1978, to February 7, 1989.

Conclusions

Both products have seemingly accomplished their task of preventing reflective cracking in the asphalt concrete overlay. As of February 7, 1989, no traverse reflective cracking had appeared in the entire test section. Some longitudinal cracking has occurred along the outside edge of the underlying PCC pavement. This is apparently due to some minor settlement of the outside lane caused by heavy truck traffic. This has no bearing on the performance of the fabric reinforcement.

Although there is no traverse cracking in the fiber reinforced pavement, it should be noted that there is also no traverse cracking in the adjacent inside lane which had no reinforcement. No further conclusions can be made at this time.