

***Research by Mississippi Department of Transportation\****

<b>Polyguard underseal installed on:</b>	<b>Interstate 82, Washington County</b>
<b>Existing Pavement:</b>	<b>Composite: Concrete, Asphalt</b>
<b>Date of Polyguard Installation:</b>	<b>May 1987</b>
<b>Date of Core Removal:</b>	<b>December 1991</b>
<b>Length of Time in Service:</b>	<b>4-1/2 years</b>
<b>Number of Cores Removed:</b>	<b>Not stated. "Numerous cores" were taken where cracks had occurred. (p. 12)</b>
<b>Results of Core Inspections:</b>	<b>"In all cases the underlying joint was water-proofed, and the tape was not ruptured." (p. 13)</b>

Mississippi Department of Transportation Final Report State Study No. 67-18 *Evaluation of Joint Sealing Tape*. September 1992.

**FINAL REPORT  
STATE STUDY NO. 67-18  
EVALUATION OF JOINT SEALING TAPE**

**BY  
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**CONDUCTED BY  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

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*RESEARCH & DEVELOPMENT DIVISION*



## *Mississippi Department of Transportation Study*

The Mississippi Study included an evaluation of 68,400 LF of Polyguard underseal installed on longitudinal joints of U.S. 82 in Washington County. The pavement then received a new overlay of two lifts totaling 3".

The project was monitored for 3 years. In areas where the pavement cracked over the Polyguard underseal, cores were taken to determine if the underseal was continuing to waterproof. The following is an excerpt from pages 12 and 13 of the report.

### *Excerpt:*

"Numerous cores were secured from the control and test section in December, 1991. The coring was done to help verify underlying joint waterproofing and to establish the possible source of transverse cracking.

After reviewing and analyzing the core samples, various conclusions seem apparent. Some of the cracks, especially those that appear to be in the parallel multiple category (Figure 10), are obviously starting at the top of the asphalt and meandering downward towards the underlying joint sealing tape (Figure 11). This type of action would seem to be directly related to vertical movement rather than horizontal. Some cracks occurred at the outer edges of the tape. These cracks were determined to be horizontal stress relief associated (Figure 12). Most of the single cracks that were cored through were within two or three inches of the underlying joint. The cracks seemed to propagate away from the joints, usually in the direction of traffic. In some cases, the joint sealing tape seemed to "bridge" an underlying joint and shift the reflection crack to the outer edges of the tape (Figure 13). In all cases the underlying joint was waterproofed, and the tape was not ruptured."

**For a full copy of the Mississippi Study, contact Polyguard at 800-541-4994.**