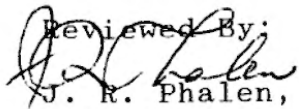



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## PERFORMANCE OF LIQUID LATEX (ULTRAPAVE) IN A CHIP SEAL

### HISTORY:

In September of 1987, District #4 forces applied a CRS-2 emulsion chip seal on approximately 1.8 miles of Vt Rte 12A in the town of Braintree. One distributor truck load of the CRS-2 emulsion was modified on the morning of Sep. 15th by the addition of 3% Ultrapave, a liquid latex additive which was being used experimentally to evaluate its ability to reduce the loss of surface stone. The most southerly section of the project was sealed with that load beginning at 8 AM with the air temperature 45 deg.F. and rising. Both lanes of the highway were completed with the modified pavement by 9:50 AM when the temperature had risen to 59 deg.F. The remainder of that tanker of emulsion and part of a second load were used to complete sealing northerly to the Braintree-Granville town line.

### STATUS:

A field inspection on March 22, 1988 revealed that significant stone loss had occurred especially between wheel paths in the southbound lane. Overall, stone loss has been greater from the standard seal. In the area with standard emulsion the aggregate could easily be popped out of the surface or dislodged by scuffing with a boot. In the area where the Ultrapave was added the small stones could be pried out but it required more effort due to the adhesive quality of the binder.

The manufacturer's representative revealed that during the 1987 construction season the bid price for emulsion for chip seal in the northeast was approximately 70 to 74 cents per gallon. The addition of Ultrapave in those states which used it in significant amounts added approximately 25 cents to the per gallon cost.

Using the cost figures above and an application rate of 3 sy./gallon, the additional cost for 1 mile of 22' wide roadway would be approximately \$3,200.00.

### RECOMMENDATION:

Based on the preliminary observations made on the Rte. 12-A application, consideration should be given to the addition of a liquid latex where experience indicates significant stone loss could be anticipated.

Dist. A,B,C,D,E