

MATERIALS & RESEARCH DIVISION

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Page 1 of 2

RESEARCH UPDATE

UpdateU94-16

EPOPLEX EPOXY PAVEMENT MARKING

REFERENCE WP No. 94-R-23

PURPOSE: As solvent based paints are phased out of the traffic marking arena, other materials will need to be identified and evaluated. It is in the best interest of the Agency to evaluate alternative pavement marking materials. In 1994, Traffic Markings, Inc. was given permission to substitute epoxy for thermoplastic markings on the Barre F026-11(36)S project on US 302. That application is the subject of this report.

HISTORY: Vermont has applied epoxy pavement markings experimentally on two previous occasions. In September 1984, Linear Dynamics, Inc. of Montgomery, PA applied Super Lifeline Epoxy Pavement Marking on a five mile segment of US 4 in Castleton and West Rutland. That product showed significant distress after five months, while its average service life was three years. In October 1993, Traffic Markings, Inc. of Franklin MA applied Lumiline, a two part epoxy pavement marking system manufactured by Accent Stripe of Buffalo, NY on the Guilford/Springfield IR091-1(18) C/2 project(see report U94-3). It was evaluated in May of 1994 and was found to be performing well. Unfortunately the area was painted over during the summer of 1994.

PRODUCT DESCRIPTION: The selected material was EPOPLEX LS5, a two component, 100% solids, epoxy coating material designed as a rapid setting highway marking offering durability, and abrasion resistance. The manufacturer, Epoplex, One Park Avenue, Maple Shade, NJ 08052, Tel. (609)667-8399, specifies installation on clean dry pavement with a minimum pavement temperature of 40⁰ F, and a minimum ambient temperature of 35⁰ F. Drying time is estimated to be 10 minutes at 77⁰ F, with an anticipated service life of four years.

FIELD TRIAL LOCATION AND INSTALLATION: The markings were applied on November 16, 1994. The ambient temperature was 40⁰ F, with the pavement surface temperature at 43⁰ F. Tests indicated that the average thickness of the epoxy was 23 mils. The material took approximately 20 minutes to dry, due to the cold conditions. No vehicle tracking problems were noted. The bead coverage did appear to be light on one line of the double centerline.

COST: According to the supplier, the material costs are equal to thermoplastic (around \$0.30 per linear foot). For this project the supplier was paid \$0.295 per linear foot.

STATUS: There has been no evidence of snow plow damage to the epoxy markings through the first part of December 1994. Performance monitoring will continue with an emphasis on retroreflectivity and durability of the material.

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U94-16

Application of the epoxy



Epoxy marking equipment



Bead Coverage

Less bead coverage on
the WB line
(Note EB line is at top
of picture)

