

ABSTRACT

A one mile section each of thermoplastic and epoxy pavement marking materials were placed on new ACC pavement near Carroll, IA on Highway 30. The markings were evaluated for four years to see if they were suitable materials for durable pavement markings.

The epoxy markings were inadvertently repainted after two years. They were performing well up to that time with little plow damage and good retroreflectivity.

The thermoplastic dash lines suffered heavy snow plow damage after the first year and were repainted after the third winter. The thermoplastic edge lines performed fairly well for four years.

INTRODUCTION

Pavement markings are used to delineate roadways and make them safer to navigate during the night time and during inclement weather. The most common type of pavement marking is waterborne traffic paint. There are many areas around the state where the waterborne paint is worn off the pavement during the winter time. The paint experiences heavy wear during the winter due to sand that is applied to the road for added traction, and due to frequent snow plowing.

Epoxy and thermoplastic pavement markings are two materials which may have the potential for serving as durable pavement markings that can survive for several winters.

OBJECTIVE

The objective of this study is to determine if epoxy and thermoplastic suitable alternatives for durable pavement markings.

PROJECT LOCATION AND CONTRACTOR

The project number for this work was F-30-2(62)--20-14. The marking materials were placed on U.S. 30 in east of Carroll, IA in Carroll County in July 1989. One mile sections of each material was installed. The thermoplastic material was placed between station 160 and 226. The epoxy material was placed between station 118 and 160. The materials were placed by Swanston Engineering.

MATERIALS

The thermoplastic material was an alkyd type thermoplastic manufactured by Cataphote, Inc. The epoxy material was a fast dry epoxy manufactured by Polycarb, Inc. The product was Mark 55.1.

INSTALLATION

Both materials were placed on new asphalt pavement. The epoxy was applied at 15 mils. The thermoplastic was supposed to be applied between 125 and 188 mils, however, the initial application was not thick enough, so a second application was put down on some areas. This resulted in thermoplastic lines which were too thick. Some areas were up to 400 mils.