

HIGHER TECHNICAL INSTITUTE

CIVIL ENGINEERING COURSE

DIPLOMA PROJECT

PRODUCTION TRANSPORT
AND
PLACING OF BITUMINOUS MIXTURE

C/897

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**PRODUCTION, TRANSPORT
AND
PLACING OF BITUMINOUS MIXTURE
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PROJECT REPORT

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SUMMARY
PRODUCTION, TRANSPORT AND PLACING
OF BITUMINOUS MIXTURES

The purpose of a flexible pavement surface is to produce a structural system that will carry traffic conveniently and safely at minimum cost.

The performance of a bituminous mixture is influenced by some factors such as flexibility, durability, stability, workability etc.

For the production of bituminous mixtures plants are used such as batch plant and drum mix plant. The purpose of that plant is to produce bitumen containing the desired proportions of bitumen and aggregate and meeting all specifications.

Bitumen is delivered to the jobsite by trucks. Each type of truck used for delivery must have certain physical features in order to properly haul and discharge into the paver.

The placing process consists of two major units such as tractor unit and screed unit.

INTRODUCTION

The asphalt pavement in its modern form was first laid in Paris about the year 1858 followed by the laying of a pavement in London in 1869 and one in New York between 1870 and 1872. The first asphalt pavement constructed with prepared mixtures was laid in Washington D.C. in 1876. From these beginnings the asphalt pavement as known today, was developed, so that today the equipment and techniques used to build asphalt pavement structures are highly sophisticated. One rule that has remained constant throughout asphalt's long history in construction is this: A pavement is only as good as the materials and workmanship that go into it.

The objective of this project is to describe the production and placement of bituminous mixtures from a practical viewpoint.

In chapter one the elements of a flexible pavement together with their functions are outlined.

In chapter two the properties of producing bituminous mixtures are given. Discussion is focused on how these properties may be obtained or enhanced.

In chapter three the process of producing bituminous mixes in an asphalt plant is given. The operation of the asphalt plant is analyzed and the components of the plant are identified and discussed.

In chapter four the primary types of delivery trucks are described and the specification requirements of these vehicles are examined so that the mix characteristics do not change during the delivery process.

In the last chapter the preparation of the surface to receive the bituminous mix is outlined. The various equipment used are described but special emphasis is

given to the description of the paver. Its components are together with the operations they perform are identified, analyzed and discussed.

The project is not merely a description of equipment and techniques used. It attempts to explain how the various properties of the bituminous mix discussed in chapter two are influenced by the improper utilization of equipment and techniques.