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CIVIL ENGINEERING COURSE

DIPLOMA PROJECT

LAYING AND COMPACTION

OF

BITUMINOUS MIXTURE

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LOIZOU CHARALAMBOS

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**LAYING AND COMPACTION
OF
BITUMINOUS MIXTURE
BY
LOIZOU CHARALAMBOS**

PROJECT REPORT

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CONTENTS

	PAGE
SUMMARY	3
INTRODUCTION	4
CHAPTER 1: Properties of bituminous mixtures	5
CHAPTER 2: Elements of a flexible pavement	9
CHAPTER 3: Transportation equipment	12
CHAPTER 4: Laying of bituminous mixtures	18
CHAPTER 5: Compaction	38
CONCLUSIONS	68
REFERENCES	70

SUMMARY

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. In addition, the importance of compaction, which is the process of compressing a given volume of bituminous mixture into smaller volume, is uncalculated. Compaction is achieved by rollers.

INTRODUCTION

Since the middle of 18th century, when the bitumen pavement was first used, the equipment and techniques used to achieve best results have become very complicated. This development is based on the concept that the bitumen pavement is only as good as the materials and workmanship that go into it.

As the title indicates, this project is concentrated on the general study around the concepts for the correct laying and compaction of a bitumen mixture.

For a clearer understanding of these concepts, it is important to know the properties of a bitumen pavement; stability, durability, impermeability, workability, flexibility and fatigue resistance.

For the construction of a good quality bituminous pavement, it is also important to study the elements of a flexible pavement.

A brief reference about the transportation of the bitumen mix, is done because of the transportation effects on the future pavement condition.

However, an extended study on the laying of bituminous mixture is done, because it is one of the two most important factors for the success of a bitumen finish. Emphasis is also given on the Compaction, which is the other most important factor, and the equipment used for laying and compaction. A brief reference about the tests needed to be carried out on the site is also mentioned.