

JABATAN KERJA RAYA

MANUAL ON PAVEMENT DESIGN

CAWANGAN JALAN,
IBU PEJABAT J.K.R.,
JALAN SULTAN SALAHUDDIN,
50582 KUALA LUMPUR.

HARGA: **RM 5.00**

CONTENTS

List of Tables & Figures	(1)
Introduction	1
1.0 Scope	2
2.0 Pavement Structure	2
2.1 Designation of each layer	
2.2 Definition and function of each layer	
3.0 Thickness Design	4
3.1 General	
3.2 Design Period	
3.3 Traffic estimation	
3.4 Subgrade CBR	
3.5 Design of layer thickness	
4.0 Subbase Course	15
4.1 General	
4.2 Material Requirements	
5.0 Base Course	17
5.1 General	
5.2 Requirements for materials and mixtures	
6.0 Binder Course and Wearing Course	19
6.1 General	
6.2 Material Requirements	
6.3 Mixture Requirements	
References	26

List of TABLES

Table

3.1	Guide for Equivalence Factor, e
3.2	Maximum Hourly Capacity under ideal conditions
3.3	Carriageway Roadway Reduction Factor, R
3.4	Traffic Reduction Factor, T
3.5	Structural Layer Coefficients
3.6	Minimum Layer Thickness
3.7	Standard & Construction Layer Thickness
3.8	Minimum Thickness of Bituminous Layer
4.1	Standard Properties of Subbase
4.2	Standard Gradation Limit for Crushed Aggregates
5.1	Material Properties for Base Course
5.2	Gradation for Base Course
5.3	Mixture Requirements for Base Course
6.1	Coarse Aggregate for Bituminous Mix
6.2	Mineral Filler for Bituminous Mix
6.3	Bitumen Properties
6.4	Gradation for Asphaltic Concrete
6.5	Asphaltic Concrete Mix Design

List of FIGURES

Fig. 1	Cross Section of a Flexible Pavement
Fig. 2	Nomograph of Thickness Design

INTRODUCTION

This manual consists of the thickness design method, materials specification and the mix design for asphaltic pavements.

The structural design has been based on the AASHO (American Association of State Highway Officials) Road Test results but the design method is developed using the multi-layered elastic theory through the use of the Chevron N-layer computer program.

The mix design and material requirements are based on the existing specifications with modifications to incorporate local experience.

The reports pertaining to the development of this manual are as listed in references 10 & 11.