PERFORMANCE OF VARIOUS AGGREGATE GRADINGS IN WEARING COURSE

BY

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Thank you, may the Almighty Allah Subhanahu Wa Taala be with us all the time.
Amin.....

Taquddin Azmy bin Haji Zawawi

ABSTRACT

The aggregate required in a road construction for a given pavement layer depends very much upon the form of construction which will be used.

In common practice, aggregates are to be sorted beforehand into a number of closely graded 'single size' which may be subsequently remixed in desired portions in order to meet the gradation specified for used.

The design of a mechanically - stable pavement involves testing of trial batches to ensure the required stability quality.

In this particular project, the Marshall method of testing has been selected to determine the characteristic and performance of various aggregate gradings in wearing course. A standard aggregate grading from a standard agency has been chosen as an initial guideline in producing various aggregate gradings to be tested.

Five different aggregate gradings were experimented in deducing the properties and characteristics performance of designed mix. A few determinations have been obtained.

The results obtained from the testings, have shown that the aggregate gradings which consist of more coarser size aggregate is more stable then the aggregate gradings which consist of more finer size of aggregate, and the different in aggregate gradings will have a different in optimum binder content.

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CHAPTER ONE

INTRODUCTION

1.1 Function of aggregates in asphaltic pavement

Mineral aggregates are functioned as the basic materials of asphaltic pavement construction. Not only do they support the main stresses occurring within the pavement, but in addition the aggregates in the road surface must resist wear due to abrasion by traffic as well as the direct weathering effects of the natural elements.

In low-cost roads, natural gravel aggregates or crushed aggregates mixed with soil frequently, form the entire pavement structure.

Primarily aggregates is responsible for any load-carrying capacity which the surfacing may have, while at the same time it provides the resistance to abrasion under traffic which is so important in road safety to preventing vehicles from skidding.

According to American Association of State Highway and Transportation Officials (AASHTO) aggregates greater than 2.0 mm is described as coarse aggregates and aggregates of size 2.0 mm down to 0.075 mm is described as fine aggregate.