

PERMEABILITY OF AGGREGATES

by

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1.0 INTRODUCTION.

Highway specifications for base and subbase are concern mainly for its strength properties with no explicit requirements for permeability (Cedergren, 1974 (1)). According to Cedergren, 1980 (2), the damaging action of water in highway base or subbase account for almost 90 % or more of the serious pavement problem.

Even if precautions were taken to minimised water flowing laterally from shoulders or medians, the entry of water cannot be avoided. Water may enter base or subbase courses by several ways : by seeping downward through constructions joints or cracks, by capillary force through the subgrade from the underlying water table, and by accumulating as water vapour below the road pavement.

Subsequently, good drainage must be provided to minimised water related damages (Chapius,et,al 1992 (3)). Even in proper drainage provision, highway base and subbase may become inefficient over time because of the migration of fines. The practical way to avoid this migration are known as filter criteria (see Bertham, 1940 (4), Terzaghi,1945 (5), amongst others).

1.1 Problem statement.

In civil engineering projects there is a lot situation that involves with permeability of soils. For example, water seepage through the earth dam, drainage blankets beneath the road embankments and road subbase. The problem that associated with the seepage through highway base and subbase can cause major failure. Thus, it is important to understand the permeability characteristics of aggregates inn highway base and subbase.