



EFFECTS OF SUPERPAVE SPECIFICS AGGREGATE GRADATION ON MARSHALL MIX PARAMETERS

By

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Abstract

The purpose of this study is to evaluate the effect of the Superpave aggregate gradation on Marshall Parameters. The Superpave Specifies aggregate gradation was used to select aggregate gradation as such blending of available aggregate was carried out and that the gradations were above, through and below the Superpave restricted zone. The Marshall method was used to design the asphalt mixtures. Asphalt concrete mixes were designed for 28 numbers of Superpave aggregate gradations and were tested in the laboratory to evaluate their stability and flow value. In addition, density - void analysis was carried out to find Marshall Parameters.

Statistically, all type of mixes (over, through and above the restricted zone) did not show any significant difference on Marshall Stability and Void in Mineral aggregate (VMA) in this study. The gradation pass below the restricted zone, those mixes showed higher Va and lesser Flow value than the gradation pass above / through the restricted zone.

Based on the testing performed In this study, following recommendations can be made;

1. Superpave specifies aggregate gradation could be used as a guide to develop 100 percent crushed granite aggregate blends for wearing course.
2. Superpave coarser aggregate gradation (gradation that pass through or below the Superpave restricted zone) could be used as wearing courses with local conditions (still not use such a gradation for wearing coarse in Sri Lankan specifications) .

DECLARATION

“ I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations”


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