

Thesis Title	Effectiveness of Hydrated Lime on Treatment of Moisture Damage in Asphalt Concrete
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Abstract

This thesis was intended to study the effect of hydrated lime on treatment of moisture damage in asphalt mixture. The materials used in the study consisted of asphalt cement AC 60 - 70, corresponding to the standard of Highway Department, and the limestone aggregates from 3 sources showing stripping problem after being mixed with asphalt cement. The asphalt mixture produced by those aggregate tended to have less strength after exposing to the moisture. Five treatment levels of hydrated lime in the form of slurry by blending water and hydrated lime with the ratio of 70:30 were used to investigate the optimum treatment level. In this study, the strength ratios of wet specimen and dry specimen, after being tested by two test methods: stability and indirect tensile, were used in the analysis. It was found in this study that the addition of hydrated lime showed the improvement in both strength ratios of all asphalt mixtures produced by the aggregates from 3 sources. However, due to the use of same amount of asphalt content in the asphalt mixture with varied hydrated lime content, the strength index and the tensile strength ratio tended to reduce relatively after reaching the optimum hydrated lime content. It was also found that the optimum hydrated lime content varied among different aggregate sources. To obtain the optimum hydrated lime content, therefore, types and sources of aggregate need to be considered. However, the results from this study confirm that hydrated lime has significant effect in improving the

strength characteristic of the asphalt mixture when exposed to moisture. It, therefore, tends to reduce stripping problem caused by moisture in asphalt concrete surface.

Keywords : Asphalt / Asphalt Concrete Mixture / Moisture Damage /
Stripping in Asphalt Concrete Mixture / Hydrated Lime