

CASE STUDY OF CEMENT ADDITIVE EFFECT ON ASPHALT MIXTURE DURABILITY AGAINST MOISTURE AND STRIPPING

M. Khadem*

Civil Engineering department, Iran University of Science and Technology

H. SabbaghMollahosseini

Municipality of Tehran hsabbaghm@yahoo.com

P. Hayati

Civil Engineering department, Iran University of Science and Technology

hayati@iust.ac.ir

*: Mahmood.khadem@gmail.com

ABSTRACT

Aggregates stripping and moisture detriment are failures, which mostly occur in asphalt pavements, especially in areas with high degree of moisture conditions accompanied by improper aggregates. Based on the above description, we aimed to investigate the problem by performing laboratory tests on aggregates and different types of asphalt mixture with various percent of cement additive. We tested our solution on one of the biggest road projects in Iran, which suffered from stripping. AASHTO T182 and ASTM D3625 are used as a primary evaluation of available aggregates capacity value against striping. Then, AASHTO T283 standard is used for examining of indirect tensile strength on asphalt mixture using the mentioned aggregate. Evaluation of asphalt mixture durability increase against high moisture problem is done by TSR, MRR and fatigue index. Asphalt mixture with cement additive. Results in our tests in a real project show the capabilities of cement additives against the stripping phenomena.

KEY WORDS: Cement additive, stripping, MRR index