Development of high workability grout on semi rigid wearing course

Abstract

A composite pavement known as semi rigid wearing course is made by incorporating high workability fluid grout into a high porosity of porous asphalt skeleton. This fluid grout is particularly designed to have the consistency workability of water with high early and 28-day strength. It is critical to maintain its high fluidity so it can flow through air voids while simultaneously generate high compressive strength with minimal porosity. The aim of this study is to investigate the influence of a known pozzolanic material towards the properties of fluid grout. A wide range of mix trials was formulated with various proportions of chemical and mineral admixtures. The fresh and hardened grout underwent flow cone and compressive test for its workability and strength determination respectively. The results obtained show that the combination of a known pozzolanic material and a known chemical admixture is possible to improve the fluidity of grout and strength when suitable and conducive mix proportions attained. © Published under licence by IOP Publishing Ltd.

Indexed keywords

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Engineering uncontrolled terms: Chemical admixture, Composite pavements, Compressive tests, High workability, Mineral admixtures, Mix proportions, Porous asphalts, Pozzolanic materials

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