World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:10, No:02, 2016

Strength and Permeability of the Granular Pavement Materials Treated with Polyacrylamide Based Additive

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Abstract : Among other traditional and non-traditional additives, polymers have shown an efficient performance in the field and improved sustainability. Polyacrylamide (PAM) is one such additive that has demonstrated many advantages including a reduction in permeability, an increase in durability and the provision of strength characteristics. However, information about its effect on the improved geotechnical characteristics is very limited to the field performance monitoring. Therefore, a laboratory investigation was carried out to examine the basic and engineering behaviors of three types of soils treated with a PAM additive. The results showed an increase in dry density and unconfined compressive strength for all the soils. The results further demonstrated an increase in unsoaked CBR and a reduction in permeability for all stabilized samples.

Keywords : CBR, hydraulic conductivity, PAM, unconfined compressive strength
Conference Title : ICTHE 2016 : International Conference on Transportation and Highway Engineering
Conference Location : Melbourne, Australia
Conference Dates : February 04-05, 2016