

Study on Moisture-Induced-Damage of Semi-Rigid Base under Hydrodynamic Pressure

Authors : Baofeng Pan, Heng Liu

Abstract : Because of the high strength and large carrying capacity, the semi-rigid base is widely used in modern road engineering. However, hydrodynamic pressure, which is one of the main factors to cause early damage of semi-rigid base, cannot be avoided in the nature environment when pavement is subjected to some loadings such as the passing vehicles. In order to investigating how moisture-induced-damage of semi-rigid base influenced by hydrodynamic pressure, a new and effective experimental research method is provided in this paper. The results show that: (a) The washing action of high hydrodynamic pressure is the direct cause of strength reducing of road semi-rigid base. (b) The damage of high hydrodynamic pressure mainly occurs at the beginning of the scoring test and with the increasing of testing time the influence reduces. (c) Under the same hydrodynamic pressure, the longer the specimen health age, the stronger ability to resist moisture induced damage.

Keywords : semi-rigid base, hydrodynamic pressure, moisture-induced-damage, experimental research

Conference Title : ICMSAPE 2015 : International Conference on Materials Science, Applied Physics and Engineering

Conference Location : Los Angeles, United States

Conference Dates : September 28-29, 2015