ABSTRACT

Roads are the necessary portion of transportation infrastructure and its management is always a great duty for those in charge. Under developing countries like Pakistan commonly have flexible pavement, because of its low primary cost. But the difficulty with flexible pavement is its cynical to rutting, fatigue and reflective cracking, therefore results in lowering its design life. Most frequently or not an extra layer of asphalt is constructed on an existing pavement rehabilitation method stated to as overlay. One of the technique to resist the distress is by introducing the additional reinforcing layer of geo- composite material. The presented study investigated under real time scenario by the use of geo-composite material as inserted layer between old and new pavement by laboratory testing. Samples were prepared under the actual field conditions, tested for rutting and fatigue and evaluation were drawn. Research only discuss the fatigue and rutting strengths of samples with and without geo-composite. Four point fatigue testing machine for fatigue tests of beams and wheel tracking device for rutting tests have been used. Actual pavement overlay techniques have been practiced for the sampling and the comparison of the results obtained is discussed. Results concluded that geo-composite layer enhances the rutting strength of asphalt concrete specimen in flexible pavement while there was no improvement in fatigue sustainability maybe due to the improper placement.