

ABSTRACT

Water ponding or water induced damage is a term that serves as an enemy to engineered structures. It refers to the process of water infiltrating into the asphalt pavements and accumulating on it for more than 48 hours of period under consideration. While it stays in contact with the pavement it brings deleterious effects to it including stripping, disintegration, chemical emulsification, strength reduction, and formation of cracks or potholes. This study was conducted with the understanding that water ponding is a major concern in the underdeveloped countries that face major issues with drainage systems including blockage and breakage of pipelines. In the past there has been no record of study on the effects of water ponding since it is not a major concern for the West and other parts of the world except the underdeveloped countries. Therefore, this study plays a major role in differentiating water ponding from moisture damage and establishing the former as a matter of concern for the underdeveloped regions of the world. The study evaluates three conditions namely dry, rainwater and sewage water. In rainwater and sewage water conditions specimens were prepared and immersed in the said water types for a period of 14 days and then were evaluated for flow and stability parameters using Marshall Stability testing. It was found that both the kinds of moisture contribute in accelerating the disintegration process of the pavement with sewage water causing more damages than the rainwater.