

ABSTRACT

This study presents a new approach on surface modification of crumb rubber using waste cooking oil in order to improve the poor adhesion between cement paste and crumb rubber. The change in functional groups on the surface of modified crumb rubber was observed by FTIR spectra. In this investigation, Surface modified crumb rubber percentage 0% to 20% were produced and attempts have been made for selecting the proportions of cement block mix to achieve the strength of normal cement block more or less the same density Surface modified cement block have many advantages when compared with conventional cement block such as advanced strength to weight ratio, lower coefficient of thermal expansion and good sound insulation as a result of air voids with in mortar. Use of waste cooking oil in mortar makes the cement block less density. Tests on compressive strength, water absorption and impact strength were conducted. The results show that the properties of concrete were enhanced by surface modification.