

## **Effect of Water-Cement Ratio on the Properties of NaOH-Treated Rubberized**

### **Mortar ABSTRACT**

In this study, crumb rubber was used to partially replaced fine aggregate in mortar mixture by 5, 10, 15 and 20 volume percentage (vol%) with untreated and NaOH-treated crumb rubber. There were three (3) different water-cement ratio used which are 0.45, 0.50 and 0.55. Thus, the total number of mixtures was 27. The mortars were tested for flowability, compressive strength, flexural strength and density. Based on the results, higher water cement ratio and percentage of crumb rubber replacement increased the flowability but lowered the density, compressive strength and flexural strength of the rubberized mortar. It was also discovered that the significant effect of water-cement ratio on the fresh and hardened properties of the rubberized mortar was due to the water content in the mixture. Meanwhile, the use of NaOH as treatment to crumb rubber improved the flowability, compressive strength and flexural strength of the rubberized mortar.