Abstract:

Red mud is one of the industrial solid waste from the alumina production process. The aim of the present research work was to investigate the possibility of replacing the cement by red mud in the lightweight concrete. In this paper, the cement was replaced up to 25% RM And The effect of adding different percentages of red mud on concrete compressive and tensile strength was evaluated. This study examines the effects of red mud on the compressive and tensile strength of hardened concrete. The test results showed the RM waste can be used in replacement to cement to produce lightweight concrete with suitable mechanical properties, it also showed optimum percentage of the replacement of cement by weight is 20%.

Keywords: Lightweight concrete, Industrial waste, Red mud, Compressive strength, Tensile strength