

RESEARCH PROPOSAL

The structural behaviour of lightweight Ferro cement (LWF) sandwich composite columns is investigated by conducting flexural tests on eight simply supported rectangular columns under three point loads. The main objective of the study is to investigate the comprehensive comparisons of eight columns represented in six lightweight Ferro cement (LWF) columns and two reinforced concrete (RC) columns. The performance of the LWF and RC columns is investigated in terms of crack load, load-deflection curves, stiffness, energy absorption capacity, ductility index, ultimate flexural load-to-weight ratio, load-strain curves, and crack Patterns, number of cracks, average crack width, crack spacing and the failure mode. The method outlined by ACI Building Code is used to compute ultimate moment capacities. The test results reveal the remarkable enhancement in the flexural behaviour and potential application of lightweight Ferro cement (LWF) sandwich composite columns to produce lightweight structural elements as compared to that of the reinforced concrete (RC) columns, which leads towards the industrialization of building system and meets with innovation and responsible application of concrete construction technology results in better efficiency of the composite.