

## **ABSTRACT**

This paper presents a comprehensive study on the use of BCB powder produced from clay brick demolition wastes in concrete industry. The main focus of the research is to present an additional information in the field of recycling clay masonry brick in order to explore the possible uses of these recyclable materials in structural applications. The assessment of different properties of cement paste and concrete is presented e.g. specific gravity, initial and final setting time, compressive strength among others. Cement was replaced by the powder in different proportions of 0%, 5%, 10% and 20% by weight of cement. The compressive strengths after 7, 28 and 90 days were studied. The results obtained show that the addition of artificial pozzolan improves the setting time of cement; thus the mechanical characteristics of the concrete mix. A substitution of cement up to 10% of BCB increased the compressive strength to its optimum after which the strength starts deteriorating. The current work concludes performance-based guidelines that are imperative from the cost and environmental aspects and that also can be recycled powder in concrete. BCB powder reduces weight of the concrete. With the increase in construction activities, there is heavy demand on concrete and consequently on its ingredient like aggregate also. So BCB powder can be used as an alternative to this demand