SUGA RCANE BAGASSE ASH AS A PARTIAL SUBSTITUTE FOR FINE AGGREGATE IN CEMENT-BASED PRODUCTS

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Abstract: Sugarcane Bagasse Ash (SCBA) is one of the most common types of agricultural waste, and it is obtained as a byproduct of the combustion of sugar industries. The disposal of large quantities of this waste is a critical concern in the sugar industry. Due to its availability and pozzolanic properties, it can be utilized as a partial replacement for cement or sand in concrete products. The impact of incorporating SCBA as a partial substitute for sand up to 50% by volume in interlock cement bricks was technically investigated in this study. The properties of visual appearance, density, water absorption, and compressive strength were tested after seven days of production of the bricks. A slump test was conducted for every brick mix to observe the workability. As per the results of all samples, the bricks with 10% SCBA addition were selected as the most preferable bricks. The average compressive strength of the selected bricks was observed to be 13.54 Nmm^{-2}. The selected interlock bricks can be recommended to be applied in indoor gardens and house pavements where heavy loads aren't used.

Keywords: Cement Interlock Bricks, Compressive Strength, Substitute, Sugarcane Bagasse Ash, Waste Material