

EFFECTS OF ELEVATED TEMPERATURE ON COMPRESSIVE STRENGTH OF SBA CONCRETE

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ABSTRACT

This paper shows the results of an experimental study on compressive strength of concrete after heating to higher temperature. So, this study aims to observe the thermal stability of concrete containing Sugarcane Bagasse Ash (SBA). In present study five mixtures were prepared at different replacement levels of SBA (0 to 20% @ increment of 5%) with cement and subjected to different temperature levels (150⁰C, 300⁰C and 600⁰C) from room temperature. Sixty cubes were casted (with three cubes for each testing condition) and cured for 28days. Then after, these cubes were transferred to muffle furnace for two and half hour duration to observe the effect of heating. The results indicate that the concrete strength decreases with increasing temperature, and decrease in the strength of reference concrete (0% SBA) is almost similar to SBA concrete. Therefore, it can be concluded that the replacement of cement with SBA cannot change the strength properties of concrete during heating.

KEYWORDS: Compressive Strength, Concrete, Elevated Temperature, Sugarcane Bagasse Ash, Workability