

Experimental Study on Performance of Sugarcane Bagasse Ash in SCC (Self Compacting Concrete): A Review

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Abstract: Self-compacting concrete (SCC) has the ability to creep and self-compact. One of the benefits of SCC can reduce construction time and labor costs. The materials to be used are slightly different from conventional concrete. Cement is the most important component of concrete mix for construction works and cement is the second most consumed material in the world after water. However, we are aware that this leads to major environmental damage as the cement production process reduces carbon dioxide. The objective of this research is to determine the mechanical properties and workability of sugarcane bagasse ash (SCBA) as a partial addition to ordinary portland cement (OPC) in concrete. SCC was partially added in percentages of 5%, 10%, 15% and 20% by weight of cement for an average target strength of 27 MPa. To evaluate the behavior of self-compacting concrete on concrete, various tests were carried out on concrete samples, namely compressive strength test, slump cone test, V-funnel test, L-box test. The study concluded that 10% replacement of OPC SCBA showed positive results and can be considered as a suitable cementitious material in the construction industry.

Keywords: Conventional concrete, Compressive strength, Self-compacting concrete, Sugar cane bagasse ash (SCBA), Cement, slump cone test, V-funnel test, L box test

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