

## Physical and Mechanical Performance of Mortars with Ashes from Straw and Bagasse Sugarcane

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**Abstract :** The objective of this study was to identify the optimal level of partial replacement of Portland cement by the ashes originating from burning straw and bagasse from sugar cane (ASB). Order to this end, were made five series of flat plates and cylindrical bodies: control and others with the partial replacement in 20, 30, 40, and 50% of ASB in relation to the mass of the Ordinary Portland cement, and conducted a mechanical testing of simple axial compression (cylindrical bodies) and the four-point bending (flat plates) and determined water absorption (WA), bulk density (BD) and apparent void volume (AVV) on both types of specimens. Based on the data obtained, it may be noted that the control treatment containing only Portland cement, obtained the best results. However, the cylindrical bodies with 20% ashes showed better results compared to the other treatments. And in the formulations plates, the treatment which showed the best results was 30% cement replacement by ashes.

**Keywords :** modulus of rupture, simple axial compression, waste, bagasse sugarcane

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