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PHYSICO-MECHANICAL PROPERTIES OF CEMENT BONDED BOARD FROM MIXTURE OF AGRO-WASTE.

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Abstract.

Physico-mechanical properties of cement bonded board produced from rice chaff and maize stalk at the blending proportions (BP) of 100:0, 75:25, 50:50, 25:75, 0:100; and mixing ratio (MR) of cement to agro-waste at 2:1 and 3:1 were investigated. The influence of BP and MR on the water absorption (WA), thickness swelling (TS), modulus of rupture (MOR) and modulus of elasticity (MOE) were determined. Increase in BP and MR caused decrease in WA and TS and increase in MOR and MOE. Board produced from 100% rice chaff (100:0) has the lowest physico-mechanical properties than that from maize stalk (0:100). Board produced from BP 25:75 and MR 3:1 exhibits highest properties. The WA, TS, MOR and MOE were significantly affected by the MR and BP. The agro-waste residues are suitable raw material for the manufacture of value-added panel products for core and social housing for low income citizens.