PROPERTIES OF BIO-COMPOSITE PRODUCTS FROM ACACIA STRAND AND COCONUT VENEER

By

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Properties of bio-composite product from Acacia strand and coconut veneer were ascertained. The effects of strand size and layer arrangement were determined. Different strand sizes (10 mm, 15 mm and 20 mm) were used to create different combinations of layer arrangement; strand-veneer-strand (SVS) and veneer-strand-veneer (VSV). Comply is a bio-composite product, was assessed for the mechanical properties (bending and internal bonding) and physical properties (thickness swelling and water absorption) in accordance with the European Standard. The value of MOR and MOE were found to be not significant when comparing SVS (10 mm and 15 mm) with 100% strand. Meanwhile, it was found that SVS (10 mm) and 100% strand had the highest value of IB and TS respectively. Both layer arrangements were then being compared with plywood made by coconut veneer. The result showed that plywood had the highest value of MOR (51.54 MPa) and IB (0.66 MPa), VSV had the highest value of MOE (8037.79 MPa), and plywood had the best value of TS (12.19%).
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