VARIATIONS OF ADDITIONAL PANDANUS THORNS FIBER AND HUMAN HAIR AS THE PRIMARY MATERIALS FOR MANUFACTURING PMC WHICH WILL BE APPLIED TO THE EXHAUST COVER WITH VACUUM BAGGING

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ABSTRACT

Composite is a new type of manipulation result material from two or more materials combined with other different materials. The combination of these two materials is intended to obtain a combined result which is expected to improve the weaknesses and deficiency of those two materials, including strength and flexibility. In this research, combining human hair waste from barbershops is only used as wigs and pandanus thorns which are generally used by the community but only as handicrafts for the handicraft industry. The volume fraction used was 30% with variations in the ratio of pandanus thorn fiber and human hair with mixed variations of PR-1 (10%:20%), PR-2 (15%:15%), PR-3 (20%:10%) . The results of the impact test with the variation of the mixture PR-1 (10%:20%) the lowest strength value was 5,36 J/mm2 compared to the variation of the mixture PR-2 (15%:15%) which was 5,51 J/mm2 and the variation of the mixture PR-3 (20 %:10%) had the greatest impact value between PR-1 (10%:20%) and PR-2 (15%:15%) which was 6,62 J/mm2 . The results of the bending test with a mixed variation of PR-1 (10%:20%) the lowest bending value was 78 MPa compared to a mixed variation of PR-2 (15%:15%) which was 117 MPa and a mixed variation of PR-3 (20%:10%) had the largest bending value between PR-1 (10%:20%) and PR-2 (15%:15%) which was 156 MPa. So it can be concluded that the more pandanus thorn fiber, the higher the strength value.

Keywords : *Composite, Pandanus Thorns, Human Hair, Vacuum Bagging, Impact, Bending.*