ANALYSIS OF THE EFFECT OF VARIATIONS IN THE ADDITION OF COCONUT FILTER REINFORCED COMPOSITE LAYERS ON TENSILE STRENGTH

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ABSTRACT

Coconut filters are a series of naturally occurring fibers like a net or in the form of a filter. This research is considered necessary to find the tensile strength of composites. In this research, the matrix used is in the form of resin type Q Epoxy HQ EP 501 R. The variation used is the addition of layers 1, 2, 3, 4 and 5. The standard of tensile testing used is D638-14. The results showed that the addition of layers had a limit on tensile strength due to reduced bonding in each layer. Composite with 3 layers of coconut filter fibers had the highest tensile strength of 35.46 Mpa. Specimen fault modes include voids, pull out, crack deflection, overload, bond holes and not bond.

Keywords: composite, coconut filter, resin epoxy