COMPOSITE ANALYSIS REINFORCED COCONUT FIBER POWDER EPOXY PATTERNED ON TENSILE STRENGTH

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ABSTRACT

The research conducted aims to determine the value and mechanical properties of the tensile test and determine the fracture characteristics of the specimen. The green coconut powder thet is carried out must be separated from the fiber and the mash size is 2.36 mm, making composites using word molds with a width: 14 cm,length:28.5 cm, thickness: 5 mm. The specimens of the specimens refer to the ASTM D638-14 standar for tensile tests. From the test results, with variations in material content 34% Coconut Fiber Powder + 66% Epoxy Resin, 41% Coconut Fiber Powder + 59% Epoxy Resin, 47 % Coconut Fiber Powder + 53% Epoxy Resin, 52% Coconut Fiber Powder + 48% Epoxy Resin, 58% Coconut Fiber Powder + 42% Epoxy Resin. In the study, the highest maximal tensile strength of the composite with a variation of 41% coconut powder + 59% epoxy resin was over 8.09 N/mm^2 and the lowest strength variation was 42% resin and 58% powder with a tensile strength of 4.55 N/mm^2 The morphology that blends perfectly well between epoxy resin and coconut powder with a variety of specimens of 59% epoxy resin and 41% coconut fiber powder.

***Keywords**: epoxy composite, coconut fiber, test tensile.*