Variation of the weight fraction of a mixture of pineapple leaf fiber and coconut fiber fiber as the basic material for making polyester matrix composite with the spinning method that will be applied to the front fender of the motorcycle

Supervisor Ir. Dicky Adi Tyagita, S.T., M.T

Lucky Wahyu Sasmito
Automotive Machinery Study Program
Department

ABSTRACT

A composite is a material made up of two or more different materials that are combined together to produce superior properties. Natural fibers have gained a lot of attention as a substitute alternative to synthetic fibers, as a reinforcer of various resins for composite applications due to their properties. The research was conducted using an alloy of pineapple leaf fiber and coconut fiber fiber that was spun and woven on a sepcement that will be made to strengthen the strength of the natural fibers used in this composite. And microcopy testing was carried out to see voids and types of failures in the composite In the mixture variations that have been tested, the average impact strength of the mixture can be obtained, which is 0.0422 joules/mm2 in the N-K variation (5%: 5%), and the lowest average impact strength is obtained, which is 0.0287 joules/mm2 in the N-K variation (0%: 10%). In the N-K variation (5%: : 5%) with N-K variation (0%: 10%), it can be seen that the quality of the composite is better in the N-K variation (5%: 5%).impact test results show that the reinforced composite is a mixture of pineapple leaf fiber and coconut fiber that is spun and woven with N-K variation (5%: 5%) has a higher value of 0.0422 joules/mm2 than the standard front fender which is 0.0099 joules/mm2 and has an increase of 3.26% so that it is suitable as a basic material for making bicycle front fenders motor.

***Keywords** : weaving, impact test, microscope test, visual observation, fracture*