

**THE EFFECT OF VARIATIONS IN THE WEIGHT OF TEAK WOOD POWDER
AND COCONUT SHELL AS REINFORCEMENT IN THE MANUFACTURE OF
COMPOSITE BRAKE PADS ON WEAR RATE AND HARDNESS**

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ABSTRACT

Brake lining is the most important part in the braking system of a motor vehicle. The material of the brake lining must have high wear resistance, high density/strength and be light to support driving safety. Conditions in the field prove that asbestos fibers are released every time braking is carried out. Environmental pollution and environmental pollution, which can ultimately disrupt human respiratory health. After realizing the dangers posed by asbestos materials, efforts emerged to create new brake linings made from composite materials. This research uses experimental methods by varying the volume fraction in the manufacturing process. It is hoped that the test results will reach a quality level that is almost the same as the standards applied to factory brake linings and to minimize excessive friction during braking. Pad C has the highest hardness value, namely 70.66 HD (right) and 69.66 HD (left), which is closest to the factory brake lining. On the other hand, canvas A has the lowest hardness value, namely 65.33 HD (Right) and 65 HD (left). Specimen C has a wear level that is closest to the manufacturer's brake lining wear level. It can be concluded that the larger and more mixed the composite, the greater the hardness value that a specimen will obtain.

Keywords : Coconut shell, Teak wood fiber, polyurethane, wear rate, Shore D hardness test.