

OPTIMISATION OF PIN ON DISC TYPE BRAKE LINING TEST DEVICE WITH VARIABLE SPEED CONTROLLER

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ABSTRACT

Tribotester is a tool used as a testing tool to determine the condition of a material. Pin on disc is one of the Tribotesters used as a test tool for a material to determine the prediction of wear and friction. Wear is the loss of material from the surface of a solid object as a result of mechanical movement. Factors that can affect wear on machine components that are in contact with each other, including pressure, surface roughness, speed, material hardness. optimising the work performance of the pin on disc type tribotester test tool with a function as a brake lining wear testing tool has been done in 2021. Optimisation of this pin on disc by adding a speed controller and adding the number of pads tested to 2 tests using Honda and Federal brake pads. The variables used in this study are using 1000, 2000, and 3000 RPM for 3 minutes with a brake lining pressure of 40 psi. For Honda brake lining testing, the highest weight reduction at 3000 RPM was 11 grams with a specimen temperature of 38.5°C and the lowest weight reduction at 1000 RPM was 0.2 grams with a specimen temperature of 31.5°C. While testing the Federal brake lining the highest weight reduction at 3000 RPM was 13 grams with a specimen temperature of 36.5°C and the lowest weight reduction at 1000 RPM was 0.4 grams with a specimen temperature of 30.9°C.

Keywords: *pin on disc, break pads, wear*