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EFFECT OF TEMPERATURE, PARTICLE SIZE, LOAD AND SPEED ON THE DRY SLIDING WEAR BEHAVIOR OF ALUMINIUM 8011-SIC COMPOSITES

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ABSTRACT

Dry sliding wear test was conducted for Al8011-SiC composites fabricated with reinforcement of 6 wt.% of (fine, intermediate, coarse) SiC particles for the variation of temperatures (30 ° C, 60°C, 90°C) and for the variation in the load and sliding speed. The result reveals that load was the most significant factor trailed by, temperature, sliding speed and particle size on the wear loss. Wear loss of the composites increases with the increase in temperature, load, sliding speed and decrease in particle size within the prescribed level. Analysis of variance (ANOVA) and Taguchi method were used to calculate the control of parameters on the wear loss and significance of parameters. From the results it was clear that particle size, temperature, load have major effect on the wear resistance.

Key words: Dry sliding wear test, Temperature, Particle size, ANOVA, Taguchi.

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