Friction and wear performance of PA composites

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ABSTRACT

Polymers are used widely in different applications due to their lightweight. Often the wear resistance can be the limiting factor for the use of polymers in demanding applications. In this study the tribological performance of PA1010 polymer was improved by using different fillers. The composited were injection moulded and the tribological performance was evaluated in sliding contact against steel counterpart in pin-on-disc tests.

The tribological performance of PA1010 was improved by reducing the friction and particularly the wear with nanofillers and with a combination of micro- and nanoscale fillers. The tribolayer formation influenced both wear and friction performance of the polymer composites. Also the influence of test parameters was studied for selectes PA composites.

Keywords: polymer, polyamide, composite, friction, wear.

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