Abstract

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Tribological Behavior of EN8 Steel in Dry Sliding and Lubricating Conditions

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Abstract:

Wear is a significant concern in the automotive industry, where shafts made of various alloys and high-hardness dies are extensively utilized. This study investigates the friction and wear characteristics of EN8 steel, commonly employed in such applications. A pin-on-disc tribometer was used to evaluate the frictional behavior of the specimens under dry and lubricated conditions. The experiments were conducted at a fixed rotating speed and track diameter, with varying loading conditions. The results indicate that lubricating conditions yield better tribological performance. The specimens exhibited improved wear resistance under lubricated conditions at a 30N load. The surface texture of the steel specimens after heat treatment was examined using a scanning electron microscope.

Keywords: EN8 Steel, Dry-sliding, Lubrication, Hydro-68, Coefficient of friction, Wear Behaviour

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