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Wear ferritic and austentic steels under the influence of loose particles of coke

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Abstract

The aim of his work is to elucidate the characteristics of wear of AISI 304 and Cm. 3 steels at the friction on the coke. tests were carried out on abrasive wear by rotaton of steel samples on the powdre cocke with a variable pressing force on the samples. Abrasive wear hardening under compression, microhardness near the friction surface, the fracture at friction surface were investigated. It has been shown that the characteristics of strain hardening of the material deremine the wear resistance at abrasive wear.

Differences in the nature of strain hardening of AISI 304 and Cm. 3 steels lead to the fact that at low pressures, wear resistance of Cm. 3 is greather them of AISI 304 stainless steel. At pressures higher then 30 kPa, wear resistance of AISI 304 steel becomes greater them of Cm. 3.

Keywords: wear resistance, fracture, deformation

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