Short Communication

Effect of Microstructure on Wear Resistance of Low-Alloy High-Strength Wear-Resistant Steel

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In this paper, microstructure, corrosion resistance and wear resistance of low-alloy high-strength wear-resistant steels of NM400 and KN400X were studied. It is found that the wear resistance of these steels differed from each other significantly although their chemical compositions were similar, depending on microstructure, grain size and non-metallic inclusions. The results of the tests on corrosion resistance and wear resistance showed that the KN400X steel had the best performance in both properties. Lower content of non-metallic inclusions resulted in more uniform and compact microstructure, which together with better corrosion resistance led to better abrasive wear property.

Keywords: wear resistance; microstructure; Electrochemical; corrosion resistance

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