VARIABLE TIME TRIBOLOGICAL BEHAVIOR OF A DEPOSIT METAL E316L-17

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Abstract : Wear and corrosion are the main problems of mechanical elements in mechanical contact, and this results in enormous economic losses. This work describes the tribological effects during the variation of the friction time (1h, 3h, 12h and 24h) and the electrochemical behavior of the substrate solder coating. E316L-17/25CD4 using electric arc welding process. The tribological tests studied such as resistance to wear and coefficient of friction were carried out by a ball test with a friction speed of 20mm/s. The polarization curves were used to evaluate the electrochemical behavior (corrosion resistance) of the upper part of the hard coating. It was found that the wear resistance of E316L-17 increased with hardness. The corrosion current density of the coatings was determined.

Keywords : E 316L-17, 25CD4 steel substrate, Electrochemical behavior, Tribological properties