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Wear Properties of AISI 4140 Steels Modificated By Using Pulse Plasma Technique

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Abstract

In this study, the microstructure and wear properties of pulse plasma treated AISI 4140 steel was investigated. The surfaces of the samples were modified by using plasma pulse technique. The only one battery capacities (800mF) and two different sample plasma gun nozzle distances of 50, 60, and different number of pulse were chosen for surface modification. Wear test was done in CSM-linear wear test machine with 0.15 m/s constant sliding speed under 5N, 7N, and 9N loads for 200 m. It was observed that friction coefficient and wear value were changed in accordance with load. Friction coefficient values of modified specimens were lower than that of non-modified ones. Wear resistance was increased in modified samples. Worn surfaces of specimens were studied by SEM, EDS analyses techniques.

Keywords
Surface,
wear
friction
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SEM