World Academy of Science, Engineering and Technology
International Journal of Materials and Metallurgical Engineering
Vol:9, No:10, 2015

Study of the Tribological Behavior of a Sliding Contact Brass-Steel Couple with Electrical Current

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Abstract : The aim of this paper is to study the tribological behavior of a dynamic contact steel-brass couple with electric current. This study looks at a dry contact brass-steel couple where friction and wear are studied in terms of mechanical and electrical parameters. For this reason, a tribometer, pin-rotary disc is used in an atmospheric atmosphere. The test parameters are as follows: the normal load (5-30N), the sliding speed (0.1 to 0.5 m / s) and the electric current (3-10A). The duration of each test is 30 minutes. The experimental results show that these parameters have a significant effect on the tribological behavior of the couple studied. The discussion of results is based on observations, using an optical microscope, MEB and a profilometer, worn surfaces and interface phenomena resulting from the process of sliding contact.

Keywords : brass-steel couple, dry friction, electrical current, morphology, normal load, sliding speeds, wear
Conference Title : ICMSCMP 2015 : International Conference on Material Science and Condensed Matter Physics
Conference Location : Barcelona, Spain
Conference Dates : October 26-27, 2015