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WEAR OF POLYMERS AND COMPOSITES

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ABSTRACT

In this seminar; outlines of the book entitles: “Wear of Polymers and Composites” are presented [1]. It starts by introducing the fundamentals of polymer tribology and sliding mechanics. It also establishes a link between the load parameters and wear responses showing their importance in determining the mechanism of fatigue wear. In addition, a new approach exploring the effect of surface defects on the wear behavior of polymers is introduced; it discusses the tribological characteristics of externally and internally lubricated polymers. Different methods evaluating polymer wear are described in terms of tribometers configurations, controlled and measured parameters including procedures recommended in testing wear of polymeric materials. Fundamentals and capabilities of different well-known methods used in predicting wear of polymers are also presented. Furthermore, wear of composite materials is extensively discussed in the light of many publications. This seminar ends up by introducing a brief of an intelligent algorithm, in the form of Artificial Neural Network, to map the relationship between wear rate, applied loads, sliding conditions, and number of surface cracks.

KEY WORDS:

Wear, Polymers, Composites

REFERENCE:

- [1] Ahmed Abdelbary; 'Wear of Polymers and Composites'; Elsevier Science & Technology; ISBN-10: 1782421777; Woodhead Publishing Ltd., Cambridge; United Kingdom (2014).

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