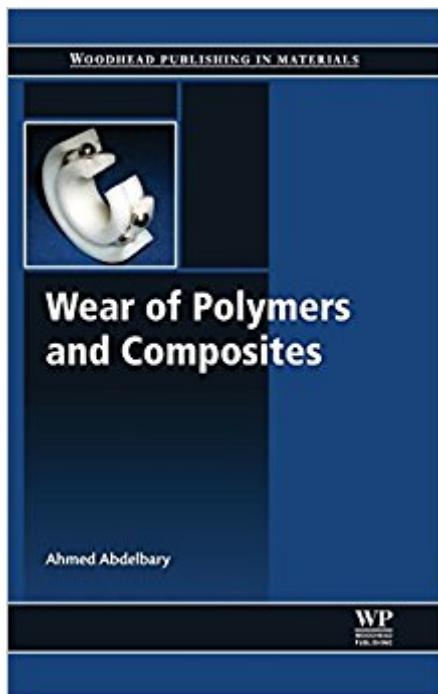


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# Wear Of Polymers And Composites



## Synopsis

In the field of tribology, the wear behaviour of polymers and composite materials is considered a highly non-linear phenomenon. Wear of Polymers and Composites introduces fundamentals of polymers and composites tribology. The book suggests a new approach to explore the effect of applied load and surface defects on the fatigue wear behaviour of polymers, using a new tribometer and thorough experiments. It discusses effects of surface cracks, under different static and cyclic loading parameters on wear, and presents an intelligent algorithm, in the form of a neural network, to map the relationship between wear rate and relevant factors. Using the aforementioned method leads to more accurate and cost effective prediction of surface fatigue wear rates, under different service conditions. The first three chapters of the book introduce polymers and composite materials tribology, followed by three chapters that cover testing in wear, applied load and contact pressure and surface defects. The remaining chapter moves on to predicting wear of polymers, and concludes by discussing questions and problems. Prepares senior undergraduates as well as postgraduate studentsFocuses on the factors influencing wear of polymers and compositesContains detailed design of Tribometer, wear test procedures and detailed dataset of more than 50 experimental wear testsIntroduces an artificial neural network approach as one of the recently developed wear prediction models.

## Book Information

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## Customer Reviews

Dr. Ahmed Abdelbary holds a B.Sc. in Mechanical Engineering from the Military Technical College

in Cairo, Egypt, M.Sc. and Ph.D. degrees from Alexandria University, Egypt. He has an academic research experience in studying wear of polymers since 1999. He is a full member of the Egyptian Society of Tribology EGTRIB. His areas of technical expertise extend to design and manufacture of multiple mechanical systems. He has published several papers on tribology of polymers.

It has a simple and current language. It is very useful for bibliographic reviews as well as practical examples and enrich the discussion of results.

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