

Preface

There is a permanent demand to improve the properties and performance of engineering materials and structures. Competitiveness due to cost efficiency (e.g. lighter structures and the corresponding fuel savings for transportation systems) or sustainability (e.g. recyclability or reusability) are nowadays the driving factors for engineering developments. The outcomes of these efforts are difficult to be accurately monitored due to the ongoing evaluation cycles. Thus, this monograph aims at presenting a snapshot of recent developments. The properties covered are related to classical fields of mechanical, thermal, electrical and optical properties as well as related to surface-specific quantities (e.g. roughness, wear and modifications due to surface coatings). The material types which are collected in this monograph range from classical metals, over synthetic materials to composites.

We would like to express our sincere appreciation to the representatives of Springer, in particular to Dr. Christoph Baumann, Senior Editor Engineering, who made this volume possible.

Southport, Australia
Magdeburg, Germany

Prof. Dr.-Ing. Andreas Öchsner D.Sc.
Prof. Dr.-Ing. habil. Dr. h. c. mult. Holm Altenbach

Improved Performance of Materials
Design and Experimental Approaches

Öchsner, A.; Altenbach, H. (Eds.)

2018, IX, 282 p. 179 illus., 116 illus. in color., Hardcover

ISBN: 978-3-319-59589-4