

## **Characterisation of Areal Surface Texture**

Richard Leach (Ed.)



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The function of a component part can be profoundly affected by its surface topography. There are many examples in nature of surfaces that have a well-controlled topography to affect their function. Examples include the hydrophobic effect of the lotus leaf, the reduction of fluid drag due to the riblet structure of shark skin, the directional adhesion of the gecko foot and the angular sensitivity of the multi-faceted fly eye. Surface structuring is also being used extensively in modern manufacturing. In this way many properties can be altered, for example optical, tribological, biological and fluidic. Previously, single line (profile) measurements were adequate to control manufacture of surfaces, but as the need to control the functionality of surfaces increases, there is a growing need for three-dimensional (areal) measurement and characterisation techniques. For this reason there has been considerable research, development and standardisation of areal techniques. This book will present the areal framework that is being adopted by the international community. Whereas previous books have concentrated on the measurement aspects, this book concentrates on the characterisation techniques, i.e. how to interpret the measurement data to give the appropriate (functional) information for a given task. The first part of the book presents the characterisation methods and the second part case studies that highlight the use of areal methods in a broad range of subject areas - from automobile manufacture to archaeology.

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Road Surfaces





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