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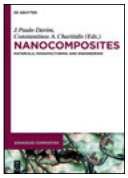

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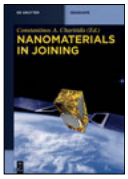

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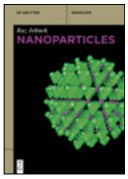

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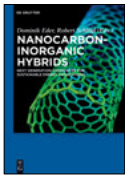

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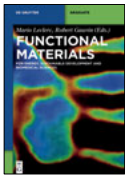

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Preface

Currently, fibre-reinforced plastics (FRPs) present great development to application in modern industry due to their excellent properties. FRPs have high tensile strength and stiffness, lightweight, corrosion resistance, non-magnetic properties. Therefore, FRPs are particularly attractive to replace conventional materials for many technological applications. Therefore, FRPs have the potential to replace conventional materials in various fields of application such as automotive, aerospace, marine and construction and rehabilitation of structures as well as in others advanced industries. As result of these potentials applications, exits a great necessity to understand the problems associates with the machinability of these group materials. Machinability refers to the relative ease with which a group the materials can be machined using appropriate tooling and cutting parameters.

The present volume aims to provide recent information on machinability of fibre-reinforced plastics – in seven chapters. The chapter 1 of the book provides information on Laser material machining of CFRP. Chapter 2 is dedicated to rotary ultrasonic machining CFRP composites. Chapter 3 described high-speed robotic trimming of carbon fibre reinforced polymers. Chapter 4 contains information on numerical modeling of machining of LFRPs. Chapter 5 described delamination in composite materials (measurement, assessment and prediction). Chapter 6 described drilling of high impact polystyrene composites materials. Finally, chapter 7 is dedicated to a review on investigations in drilling of fiber reinforced plastics.

The present volume can be used as a research book for final undergraduate engineering course or as a topic on manufacturing with FRPs at the postgraduate level. Also, this book can serve as a useful reference for academics, researchers, manufacturing, mechanical and materials engineers, professionals in machining of FRPs and related industries. The interest of scientific in this book is evident for many important centers of the research, laboratories and universities as well as industry. Therefore, it is hoped this book will inspire and enthuse others to undertake research in this field of machining of fibre-reinforced plastics.

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Aveiro, Portugal, March 2015 J. Paulo Davim