This book addresses the issue of designing the microstructure of fiber composite materials in order to obtain optimum performance. Besides the systematic treatment of conventional continuous and discontinuous fiber composites, the book also presents the state-of-the-art of the development of textile structural composites as well as the nonlinear elastic finite deformation theory of flexible composites.

The author's experience during twenty years of research and teaching on composite materials is reflected in the broad spectrum of topics covered, including laminated composites, statistical strength theories of continuous fiber composites, short fiber composites, hybrid composites, two- and three-dimensional textile structural composites and flexible composites. This book provides the first comprehensive analysis and modeling of the thermomechanical behavior of fiber composites with these distinct microstructures. Overall, the inter-relationships among the processing, microstructures and properties of these materials are emphasized throughout the book.

The book is intended as a text for graduate or advanced undergraduate students, but will also be an excellent reference for all materials scientists and engineers who are researching or working with these materials.

Microstructural design of fiber composites

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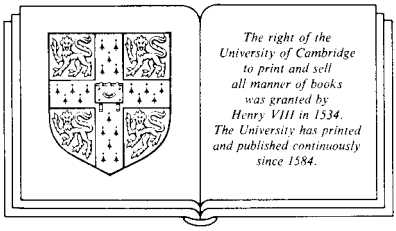

CAMBRIDGE UNIVERSITY PRESS
Cambridge
New York Port Chester
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CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo

Cambridge University Press
The Edinburgh Building, Cambridge CB2 2RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9780521354820

First published 1992
This digitally printed first paperback version 2005

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data
Chou, Tsu-Wei
Microstructural design of fiber composites/Tsu-Wei Chou.
p. cm.—(Cambridge solid state science series)
ISBN 0-521-35482-X
1. Fibrous composites. 2. Microstructure. I. Title.
II. Series.
TA481.5.C48 1992
620.1'18—dc20 90-43347 CIP

ISBN-13 978-0-521-35482-0 hardback
ISBN-10 0-521-35482-X hardback

ISBN-13 978-0-521-01965-1 paperback
ISBN-10 0-521-01965-6 paperback

To Mei-Sheng, Helen, Vivian and Evan