1. Record Nr. UNINA9910495347303321 Autore Hall Wayne <1951-> Titolo Design and manufacture of fibre-reinforced composites / / Wayne Hall and Zia Javanbakht Pubbl/distr/stampa Cham, Switzerland: ,: Springer, , [2021] ©2021 **ISBN** 3-030-78807-5 Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (XV, 137 p. 89 illus., 52 illus. in color.) Collana Advanced Structured Materials, , 1869-8433; ; 158 Disciplina 620.118 Soggetti Fibrous composites - Design and construction Fibrous composites Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Fibre-Reinforced Composites -- Mechanics of Composite Structures --Nota di contenuto How to Make a Composite - Wet Layup -- Advanced Methods - Vacuum Bagging and Prepreg Moulding -- Composite Testing - How Accurate are Design Estimates?- How to Make Mouldable Composite Parts --Hollow Sections - How to Make Composite Tubes. Sommario/riassunto This book presents an introduction to the design and manufacture of fibre-reinforced composites. The mechanical properties of unidirectional composites are considered in a structural design context. The use of woven and random fibres is also addressed. The accuracy of design estimates for unidirectional composites is benchmarked against test data, and the relevance of a factor of safety (FoS) is established. The importance of prototype testing is emphasised. This book illustrates how to make a fibre-reinforced composite. Wet lavup. vacuum bagging and prepreg moulding are covered in detail. Some guidance on mould design and construction is also provided. Finally, an introduction to the manufacture of composite tubes is presented. Wherever possible, design and make examples are used to illustrate the content. Tutorial questions and problems are included at the end of each chapter. The reader is encouraged to use these questions and

problems to assess their own level of understanding of the content.