Manufacturing of Natural Fibre Reinforced Polymer Composites [

Salit, Mohd Sapuan
Jawaid, Mohammad
Yusoff, Nukman Bin
Hoque, M. Enamul

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Monografía

Natural fibers, derived from oil palm, sugar palm, bagasse, coir, banana stem, hemp, jute, sisal, kenaf, roselle, rice husk, betul nut husk, and cocoa pod, have been considered as reinforcing materials in polymer composites. The unique properties of natural fibers including low cost, renewable, abundance, light weight, and less abrasive, suggest that they are suitable as semi-structural or non-structural engineering components. Although research on natural fiber composites such as characterization, determination of properties, and design have been extensively carried out, these information are scattered and not easily accessible to non-specialists. This book addresses such shortcoming and provides detailed accounts of natural fiber composites in terms of their physical and chemical properties, in relation to their applications in the manufacturing and engineering industries. Chapters, written by experts in their respective fields, highlight the hidden values of natural fibers for all those who are interested in this exciting research discipline

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Contenido: The Relationship between Manufacturing and Design for Manufacturing in Product Development of Natural Fibre Composites -- Introduction to Manufacturing of Natural Fiber Reinforced Polymer Composites -- Green Composites Manufacturing via Compression Molding and Thermoforming -- Compaction, Permeability and Flow Simulation for Liquid Composite Moulding of Natural Fibre Composites -- Manufacturing and Processing of Kenaf Fiber Reinforced Epoxy Composites via Different Methods -- Critical Concerns on Manufacturing Processes

of Natural Fibre Reinforced Polymer Composites -- Challenges in Machining of Natural fiber Composites -- Yarn Flax Fibres for Polymer-Coated Sutures and Hand Lay-up Polymer Composite Laminates -- Effect of Processing Conditions on the Mechanical and Morphological Properties ofComposites Reinforced byNatural Fibers -- Manufacturing of Long Puchika Grass Fibre Reinforced Polyester Composites {u2013} Assessment under Mechanical and Dielectric Loading -- Pultrusion Process of Natural Fibre Reinforced Polymer Composites -- Bio-nanocomposites from Natural Fiber Derivatives: Manufacturing and Properties -- The Manufacturing of Natural Fiber Reinforced Composites by Resin Transfer Molding Process -- Manufacturing of Chemically Modified Date Palm Leaf Fiber Reinforced -- Manufacturing of Coir Fiber Reinforced Polymer Composites by Hot Compression Technique -- Manufacturing of Natural Fibre Reinforced Polymer Composites by Solvent Casting Method -- Processability of Wood Fiber Filled Thermoplastic Composite Thin-Walled Parts using Injection Moulding -- Filament Winding Process for Kenaf Fibre Reinforced Polymer Composites

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Autores: Salit, Mohd Sapuan Jawaid, Mohammad Yusoff, Nukman Bin Hoque, M. Enamul

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