



Natural Fibre Composites

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The use of Natural Fibre Composites (NFCs) in automotive and building industries is growing rapidly. NFCs are made from low cost, lighter and more renewable natural fibres. This book explores further potential of NFCs in developed and developing countries, using materials that are normally viewed as waste and simpler processing methods. Using Canada and Lesotho for case studies, raw materials and related institutional environment are surveyed. Choice of materials and processing methods for the composites are made on the basis of the surveyed factors. Some of the selected fibres are examined for their microstructural properties and their interactions with waste plastics in the composites. The composites are made and tested using fibres from Agave americana leaves/flax stalks and straw from corn/wheat stalks in waste Low Density Polyethylene (bale wrap) and High Density Polyethylene (shopping bags). The environmental benefits of NFCs are demonstrated using a Life Cycle Assessment (LCA). This book challenges university graduate and undergraduate students to think outside the box when designing and creating the green materials.

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