

Biofiber reinforcement in composite materials / edited by Omar Faruk and Mohini Sain

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Abstrak

Natural fiber-reinforced composites have the potential to replace synthetic composites, leading to less expensive, stronger and more environmentally-friendly materials. This book provides a detailed review on how a broad range of biofibers can be used as reinforcements in composites and assesses their overall performance.

The book is divided into five major parts according to the origins of the different biofibers. Part I contains chapters on bast fibers, part II leaf fibers, part III seed fibers, part IV grass, reed and cane fibers, and finally part V covers wood, cellulosic and other fibers including cellulosic nanofibers. Each chapter reviews a specific type of biofiber providing detailed information on the sources of each fiber, their cultivation, how to process and prepare them, and how to integrate them into composite materials. The chapters outline current and potential applications for each fiber and discuss their main strengths and weaknesses.