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Review

A review of bast fibres and their composites. Part 2 “ Composites

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Abstract

Bast fibres are defined as those obtained from the outer cell layers of the stems of various plants. The fibres find use in textile applications and are increasingly being considered as reinforcements for polymer matrix composites as they are perceived to be “sustainable”. The fibres are composed primarily of cellulose which potentially has a Young’s modulus of ~ 140 GPa (being a value comparable with man-made aramid [Kevlar/Twaron] fibres). The plants which are currently attracting most interest are flax and hemp (in temperate climates) or jute and kenaf (in tropical climates). Part 2 of this review will consider the prediction of the properties of natural fibre reinforced composites, manufacturing techniques and composite materials characterisation using microscopy, mechanical, chemical and thermal techniques. The review will close with a brief overview of the potential applications and the environmental considerations which

might expedite or constrain the adoption of these composites.



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Keywords

A. Natural fibres; A. Fibres

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