Challenges in predicting wood plastic composites (WPCs)

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ABSTRACT

Wood plastic composites are emerging as a popular choice for composites and are comprised of wood fibers and plastic as matrix. In this paper an overview on wood plastic composites, their properties, advantages and challenges in predictions is presented. Important factors which affect the properties of the final wood plastic composite product are also highlighted. Researchers use analytical models for prediction of mechanical properties. However there are many parameters which have impact on composite performance as natural wood fibers. It is a very costly and lengthy process to study the impact of each parameter on the composite strength through experiments. Development of suitable simulation model for wood plastic composites is also suggested for making prediction as one of the alternative ways for predicting the composite properties. Such models may be more helpful to improve the understanding of the composite properties and processing in terms of the different parameters involved.

KEYWORDS

Manufacturing; Mechanical properties and predictions; Simulation models; Wood plastic composites

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