Influence of Fibers Modification on Biocomposite Properties

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Natural fibers focus an increasing interest as reinforcement for polymer composites. The interfacial adhesion plays an important role in a stress transfer through the heterogeneous materials and the resulting mechanical properties. Thermoplastic composites presented in this paper were composed of poly(lactic acid) PLA and natural fibers (hemp, flax). The fibers prior incorporation into a polymer matrix by melt compounding were submitted to the chemical or physical treatment.

Melt rheology, mechanical properties at tensile and bending, as well as a flammability was evaluated for the PLA composites reinforced with the neat and modified fibers. It has been shown that for the specific requirement a selected way of treatment should be selected.