

Chemical and Mechanical Characterization of Composites Reinforced with Coconut Fiber in the Polymeric Matrix of Recycled PVC

Authors : Luiz C. G. Pennafort Jr., Alexandre de S. Rios, Enio P. de Deus

Abstract : In the search for materials that replace conventional polymers in order to preserve natural resources, combined with the need to minimize the problems arising from environmental pollution generated by plastic waste, comes the recycled materials biodegradable, especially the composites reinforced with natural fibers. However, such materials exhibit properties little known, requiring studies of manufacturing methods and characterization of these composites. This article shows informations about preparation and characterization of a composite produced by extrusion, which consists of recycled PVC derived from the recycling of materials discarded, added of the micronized coconut fiber. The recycled PVC with 5% of micronized fiber were characterized by X-ray diffraction, thermogravimetric, differential scanning calorimetry, mechanical analysis and optical microscopy. The use of fiber in the composite caused a decrease in its specific weight, due to the lower specific weight of fibers and the appearance of porosity, in addition to the decrease of mechanical properties.

Keywords : recycled PVC, coconut fiber, characterization, composites

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