

Composite Base Natural Fiber

Authors : Nouredine Mahmoudi

Abstract : The use of natural fibers in the development of composite materials is a sector in full expansion. These fibers were used for their low cost, their availability and their renewable character. The fibers of the palm (palm tree) were used as reinforcement in polypropylene (PP). The date palm fibers have some potential because of their ecological and economic interest. Both unmodified and compatibilized fibers are used. Compatibilization was carried out with the use of maleic anhydride copolymers. The morphology and mechanical properties were characterized by electron microscopy scanning (SEM) and tensile tests. The influence of fiber content on mechanical properties of composite PP / date palm has been evaluated and demonstrated, that the maximum stress and elongation decreases with increasing fiber volume rate. On the other hand, an increase of the tensile modulus has been noticed, but after the fibers improvement, the maximum stress increases significantly up to 25% weight.

Keywords : plant fiber, palm, SEM, compatibilizer

Conference Title : ICSDE 2015 : International Conference on Surface Design and Engineering

Conference Location : Paris, France

Conference Dates : June 25-26, 2015