

Characterization of injection molded high density polyethylene/rice straw biocomposite

Polymer composite have been subjected to increasing interest, study, and utilization for some decades. The increase in environmental concern rationalize the use of reduce polymeric materials, not only due to their non-biodegradability, but also due to their production requires large amounts of oil as raw material which is notoriously not renewable. All these issues induced to look for alternatives. Thus, the interest arises toward polymer composites filled with natural organic fillers. Composite materials (or composites for short) are engineered materials made from two or more constituent materials with significantly different physical or chemical properties and which remain separate and distinct on a macroscopic level within the finished structure. Composite materials made from plant fibers are receiving a great deal of today attention since they are considered an environmentally friendly recourse. Among all reinforcing fibers, natural fibers have gained their importance especially for load bearing applications. Natural fiber reinforced polymer composites are superior over synthetic fiber reinforced composites in certain properties like enhanced biodegradability, combustibility, lightweight, ease of recyclability, etc. These advantages place the natural fibers composites among high performance composites having economical and environmental advantages, with good physical properties [1].