Article Abstract

Title:	Anisotropy abrasive wear behavior of bagasse fiber reinforced polymer composite
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Abstract:	In this paper, an experimental study has been conducted to determine the abrasive wear behavior of bagasse fiber reinforced epoxy composite in different directions, namely parallel orientation (PO), anti-parallel orientation (APO) and normal orientation (NO) by using a two body abrasion wear tester. Three different types of abrasives wear behaviour have been observed in the composite in three orientations and follow the following trends: $W_{NO} < W_{APO} < W_{PO}$, where $W_{NO,}$ W_{APO} and W_{PO} are the wear in normal, anti-parallel and parallel directions of fibres orientation, respectively. The fiber bundles present in the composite provide unique directional abrasive wear properties. Wear anisotropy magnitude of the composite is found to be a function of load and abrasive grit size. The worn surfaces were observed by using a SEM after the wear test. It has been found that in PO type samples the abrasion takes place due microploughing, where as in APO and NO type samples micro cutting found to be responsible for the wear process.
Keywords:	Bagasse fiber, SiC abrasive paper, abrasive wear, SEM