

Machinability of natural fiber reinforced composites: a review

Abstract

In the recent years with greater emphasis on the environmental and sustainability aspects of engineering materials, natural fiber reinforced composites (NFRCs) are gaining more importance because of their numerous advantages. Several researchers have developed NFRCs using various natural fibers as well as matrix materials. However, real-world applications of NFRCs require some secondary operations in order to complete the assembly of the components or parts. Very few researchers have discussed issues related to the machinability of these NFRCs. In this paper, for the first time, a comprehensive literature review on machining of NFRCs is discussed with focus on drilling operation. The paper also reviews the studies on milling and turning of NFRCs. The distinct feature of this review is that it identifies the factors that affect the quality of the machined feature and provides general recommendations for the selection of process parameters so as to generate better quality holes during drilling. In addition, the review also discusses the challenges that hinder machining of NFRCs which is a significant contribution to the field of NFRCs.