Abstract

Woven natural fabric has gain attention in the composite for its biodegradable materials, low in manufacturing cost, and easy to obtain. A preliminary experiment was conducted in order to determine the quality of impregnation process for woven bamboo and glass fabric pre-pregs. Nine pre-preg samples of woven bamboo fabric (WBF) and woven glass fabric (WGF) were fabricated for this investigation in order to identify the impregnation process using different parameters and their pre-preg quality. The fabrics were pre-impregnated with the epoxy-based resin and then the pre-preg were stacked using five plies for each composite. The composites were stacked and cured using vacuum bagging technique with the assisted of hot bonder. The qualities of physical and mechanical properties of the pre-pregs were evaluated based on the processing parameters used. The woven bamboo fabric pre-pregs have retained a slightly higher amount of resin content, approximately of about 55% in weight fraction compared to the woven glass fabric pre-pregs, which having about 50% of resin content, respectively. This preliminary experiment shows the potential application of woven bamboo as the candidate in the pre-preg systems, in which further optimization of controlling factors in their manufacturing process is suggested to be carried out in future research. © 2020, Institute of Advanced Scientific Research, Inc.. All rights reserved.