

Abstract

Technology in Indonesia is developing faster one in the material field, namely composites. Composite material is the first choice in product development that has several advantages compared to other materials used conventionally. Composite is a material composed of a mixture of two or more materials with different chemical and physical properties, a composite material composed of two types of constituent materials namely matrix and fiber (reinforcement). Fiber has a different composition, while fiber works as a material that composes composites, while the framework is to glue the fiber and keep it from changing positions. The purpose of this study is to analyze and compare the results of manufacturing simulation of ABS plastic power window panels with bamboo composites. The research phase begins by searching the window's power panel which is then continued with the design of the Autodesk Fusion 360 software and testing with several loads namely 250N, 500N, 750N, and 1000N. Simulations that have been carried out produce data on safety factors, von mises, first principal, third principal and displacement.