

Elaboration et caractérisation des composites stratifiés à base de fibres de carbone et de fibres de verre à usage aéronautique

A. r. OUKAZI

Soutenue en: 2019

Abstract: This work is based on the elaboration and the characterization of different types of laminated composites based on epoxy resin, carbon fiber and glass fiber. These composites differ based on three essential parameters, including the type of reinforcements used, the orientation of the constituent fibers reinforcements and the heat treatment temperature at which these laminated composites were exposed. The characterization is then done to see the influence of these elaboration parameters on the physical and dynamic behaviors of this laminated composite materials developed during and after the solicitation. For this, we used nondestructive testing methods such as ultrasound and microscopy and destructive methods such as tensile and bending tests. The results obtained from the various tests were the subject of comparative interpretations followed by interesting perspectives.

Keywords : Laminated composites, carbon fiber, Glass fiber, Epoxy resin, nondestructive test, mechanic tests