

Étude expérimentale du délaminage en mode I des tubes fabriqués par enroulement filamentaire

F M L. REKBI, M. Hecini, A. KHECHAI

Abstract: The good behavior of composite materials under mechanical loading, make it a serious competitor to traditional materials. Inter laminar defects induced during implementation or during stress are the main sources of its interlaminar progressive damage causing separation of the layers known as the delamination. This work is an experimental study of mode I delamination of a laminated composite $[\pm\theta^\circ]$ manufactured as a tube by the filament winding process. Technical delamination characterization by DCB test specimens (Double Cantilever Beam) are used to determine the energy release rate in mode I and evolution of delamination resistance curves R . Tests were performed according to ASTM D5528 standard and the energy release rate in mode I (GIC) of two configurations is determined by the method of Berry.

Keywords : matériaux composites, enroulement filamentaire, endommagement, délaminage, mode I, taux de restitution d'énergie, courbes- R