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Étude expérimentale du délaminageen mode I des tubes fabriquéspar enroulement filamentaire

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Abstract: The good behavior of composite materials under mechanical loading, make it aserious competitor to traditional materials. Inter laminar defects induced duringimplementation or during stress are the main sources of its interlaminar progressive damagecausing separation of the layers known as the delamination. This work is an experimentalstudy of mode I delamination of a laminated composite [±?°] manufactured as a tube by thefilament winding process. Technical delamination characterization by DCB test specimens(Double Cantilever Beam) are used to determine the energy release rate in mode I andevolution of delamination resistance curves R. Tests were performed according to ASTMD5528 standard and the energy release rate in mode I (GIC) of two configurations isdetermined by the method of Berry.

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