

## Static Modeling of the Delamination of a Composite Material Laminate in Mode II

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**Abstract :** The purpose of this paper is to analyze numerically by the three-dimensional finite element method, using ABAQUS calculation code, the mechanical behavior of a unidirectional and multidirectional delaminated stratified composite under mechanical loading in Mode II. This study consists of the determination of the energy release rate  $G$  in mode II as well as the distribution of equivalent von Mises stresses along the damaged zone by varying several parameters such as the applied load and the delamination length. It allowed us to deduce that the high energy release rate favors delamination at the free edges of a stratified plate subjected to bending.

**Keywords :** delamination, energy release rate, finite element method, stratified composite

**Conference Title :** ICAMAME 2018 : International Conference on Aerospace, Mechanical, Automotive and Materials Engineering

**Conference Location :** Paris, France

**Conference Dates :** December 27-28, 2018