

Numerical assessment on the fatigue behaviour of composite open-hole tensile specimens

Angela Russo^{*}, Federica Russo, Aniello Riccio

University of Campania "L. Vanvitelli" - Department of Engineering, via Roma, 29, 81031, Aversa (CE), Italy

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Abstract.

This paper deals with the fatigue failure of composite coupon characterized by circular hole and subjected to tensile cyclic loading conditions. A limited sensitivity analysis has been performed to study the onset and propagation of intralaminar damages, in terms of fibres and matrix failure. The residual strength material properties degradation model, proposed by Shokrieh and Lessard, has been implemented in the FEM code ANSYS Mechanical and employed to study the damages induced by stress concentrations and assess the effects of the stacking sequence and the geometrical parameters on the fatigue damage.