

Prediction of Crack Propagation in Bonded Joints Using Fracture Mechanics

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Abstract : In this work, Fracture Mechanics is used to predict crack propagation in the adhesive jointing aluminum and composite plates. Three types of loadings and two types of glass-epoxy composite sequences: [0/90]_{2s} and [0/45/-45/90]_s are considered for the composite plate. Therefore 2*3=6 cases are considered and their results are compared. The debonding initiation load, complete debonding load, crack face profile and load-displacement diagram have been compared for the six cases.

Keywords : fracture, adhesive joint, debonding, APDL, LEFM

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