

Effects of a circular defect size and position on the damage progression in hybrid laminates under compressive loading.

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Abstract: The effects of a circular defect size and position on the post-damage response of the FMLs laminates under compressive loading have been studied. Compression tests are performed on composite plates comprising a hole having different diameters (8mm, 12mm and 16mm) and located at different positions (25%, 50% and 75%) in the loading direction. A numerical analysis using the finite element method FEM has permits the identification of the initiation zones and the description of the damage evolution in these laminates. The results of the numerical simulation are in good agreement with the experimental results. The FEM has well predicted the critical damage zones.

Keywords : Defect, damage, hybrid laminate, FEM