

COMPARISON OF TWO NUMERICAL SOLUTIONS FOR DETERMINATION OF INTERLAMINAR AND CIRCUMFERENTIAL STRESSES IN A COMPOSITE CURVED BEAM

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This paper presents a study of interlaminar tensile and circumferential stress and strain distribution in curved composite beams with a C shape, using the commercial FEM applications LUSAS and ANSYS. A general comparison of results is made between the two FEM applications used. For the circumferential strains in the outer and inner layers, the results are validated with experimental data, obtained from strain gages installed on vacuum bag/autoclave glass/epoxy prepreg beam. The curved beams have a symmetric, non balanced, stacking sequence with a total of 14 layers. The multilayer theory was the basis of the analytical work done (Ko, 1989).

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