

DESIGN AND SIMULATION OF LAMINATED GRAPHITE/EPOXY COMPOSITE USING NUMERICAL METHOD AND FEM

YENDA KESAVARAO¹, CH. SIVA RAMAKRISHNA² & SAINELKAMAL ARJI³

¹Research Scholar, Vignan's Institute of Information Technology, Visakhapatnam, Andhra Pradesh, India

²Associate Professor, Vignan's Institute of Information Technology, Visakhapatnam, Andhra Pradesh, India

³Assistant Professor, Vignan's Institute of Information Technology, Visakhapatnam, Andhra Pradesh, India

ABSTRACT

Laminated composite plate structures find numerous applications in aerospace, military and automotive industries. The role of transverse shear is very important in composites, as the material is weak in shear due to its low shear modulus compared to extensional rigidity. Hence an accurate understanding of their structural behavior is required, such as deflections and stresses. Numerical analysis has been carried out for Graphite/Epoxy Composite laminate to find the stresses and displacement of a laminated composite plates subjected to axial loads along X & Y directions of the specimen. In numerical method the displacements and stresses are developed for plies of orientation ($0^0/30^0/-45^0$) in the laminated composite and simulate the numerical values with finite element method are developed for validation.

KEYWORDS: Laminated composites, axial loading, Numerical Method, FEM, Stresses & Strains



Best Journals
Knowledge to Wisdom

Submit your manuscript at editor.bestjournals@gmail.com

Online Submission at http://www.bestjournals.in/submit_paper.php