

## **STRESS ANALYSIS OF LAMINATED GRAPHITE/EPOXY COMPOSITE PLATE USING FEM**

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### **ABSTRACT**

This work presents a stress analysis of Graphite/Epoxy laminated composite plate. In the present work the stress behaviour of laminated composite plates under Tensile loading using a four-node element with six degrees of freedom at each node and translations in the x and y directions. The static stress analysis includes the all type of stress behaviour in diagrammatic form and results are plotted for investigation. In the present study the modelling is done in ANSYS 14.5 .In this study investigations were carried on square plates starting with Three layers of top location of  $0^0$  angle ply laminated composite plates at clamped boundary condition and  $0^0$  angle ply oriented with 15,30, 45,60,and 75 degree then analyze the stresses for optimizing the structure.

**KEYWORDS:** Laminated Composite Square Plate, Ply Orientation, Tensile Loading, ANSYS and Analysis