

TO STUDY ANALYSIS OF SANDWICH BEAM WITH ANSYS AND FEM

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ABSTRACT

This paper presents the analysis of sandwich beam. The simple software has developed for calculating the data. The software are validated by compare data using the software package **ANSYS**. Sandwich beams are composite systems having high stiffness-to-weight and Strength-to weight ratios and are used as light weight load bearing components. The use of thin, strong skin sheets adhered to thicker, lightweight core materials has allowed industry to build strong, stiff, light, and durable structures. Due to the use of viscoelastic polymer constituents, sandwich beams can exhibit time-dependent behaviour. This study examines the behaviour of sandwich beams driven by the viscoelastic rubber core. Finite element method (FEM) is used to analyze the overall transient responses, harmonic responses and the static responses of the sandwich systems subject to a concentrated point load at the mid span of the beam. In this study the skin, i.e. the top and bottom layers are made up of mild steel while the core is made up of rubber. The stress, strain, and deformation fields are analyzed. The core thickness is varied keeping the skin thickness constant and the behaviour of the sandwich beam is studied under static and dynamic conditions.

KEYWORDS: Sandwich Beam, Sandwich Material, Light Weight Structure, ANSYS