

Abstract

The objective of this work is to study the transverse shear effect on the static behavior of FGM structures (sandwich plates).

Theoretical formulations are based on a recently developed higher order theories, the number of unknown functions five, without using shear correction factor

Type of functionally graded sandwich plates with functionally graded face sheet and homogeneous core.

The closed form solution of a simply supported rectangular plate subjected to sinusoidal loading has been obtained by using the NAVIER method.

The validity of this present theory is investigated by comparing some of the present results with those of the classical, the first order and the other higher order theories.

The proposed theory is accurate in studying the transverse shear effect and in solving the static bending behavior of functionally graded sandwich plate.

Keywords: Functionally graded; Transverse shear; Sandwich plate.