

# Analysis of Free Vibration of Visco-elastic Square Plate with Circular Varying Thickness

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## ABSTRACT

In present paper a simple model is presented to study the effect of non-homogeneity on vibration of square plate with circular thickness variation. Thermal Induced vibration of these plates has been taken as one-dimensional temperature distributions. Poisson ratio is assumed to vary circularly for non-homogeneity of the plate material. Using separation of variables method, the governing differential equation has been solved. The time period corresponding to the first two modes of vibration has been calculated for a clamped square plate for various values of aspect ratio, thermal constant, taper constant and skew angle.

**Keywords:** Vibration, non-homogeneous, square plate, circular thickness, thermal gradient.

