

## PENGARUH TEGANGAN IN-PLANE PADA TELAT ORTHOTROPIK AKIBAT BEBAN DINAMIK TRANSVERSAL YANG BERPINDAH TEMPAT

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Research on orthotropic plates under in-plane stress has been carried out by several experts. Over time, there are methods invented to assist in analyzing the behavior of the plate under in-plane stress. Design for common building floor slabs such as hotels, hospitals, schools and apartments need to calculate the existence of in-plane stress. In this Study, the influence of in-plane stress in orthotropic plate under suddenly-moving dynamic transversal load is analyzed. This study will be analyzed by assuming orthotropic plate with semi-rigid support. Influence of in-plane stress in orthotropic plate under suddenly-moving dynamic transversal load will be influenced by several factors including the in-plane stresses, the value of the damping ratio, dynamic transversal frequencies and the sudden-displacements of the dynamic transversal load. By doing the analysis, can be seen how the factors affect the dynamic response of the building floor slabs under in-plane stress and suddenly-moving dynamic transversal load. Dynamic responses of slab that will be analyzed include the deflections, bending moments and shear forces.

**Keywords:** Dynamic Load, In-plane Stress, Suddenly-Moving Load, Dynamic Response of Slab, Orthotropic, Semi Rigid, Maximum Deflection, Moments, Shear Force.