Benchmark Solution for Buckling of Thick Rectangular Transversely IsotropicPlates Under Biaxial Load

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Highlights

- There is very limited number of works about buckling of transversely isotropic plates. In this research using displacement potential functions, an exact solution is presented for this problem.
- Since no simplifying assumption is made in deriving the differential governing equations or applying the boundary conditions, the method is exact and applicable to thin, moderately thick and thick plates.
- A compressive load along second axis decrease the buckling load and buckling mode in general and vice versa.
- Among engineering constant of a transversely isotropic material, in-plane modulus of elasticity E and transverse shear modulus G' have the most effects on buckling.