# Generalized theory for bending of thick plates

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**Abstract:**  Several refined theories of plates have been developed in recent decade. All such theories have attempted to incorporate the effects of transverse shear stresses and transverse normal stress and strain which become important as the ratio of the plate thickness to characteristic length (h/L) increases. The theory developed in this paper belongs to this category, however it differs in that generalized forms of stresses are assumed initially, which lead to the formulation of a more accurate theory of bending of thick plates. Upon comparison of the results from the present work with the exact solution and other theories, the present theory yields results closest to the exact solution for both deflection w and inplane stresses, up to ratios of h/L of 0.2 for plates and 3.0 for 3D elastic bodies.