

ASSUMED-STRESS HYBRID FINITE ELEMENTS IN THE ANALYSIS  
OF MULTILAYER SATELLITE STRUCTURES.

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ABSTRACT

The formulation of two 4-node general quadrilateral multilayer plate/flat-shell elements is shown based on an assumed-stress hybrid model. One element is specially formulated for the analysis of moderately thick sandwich shells while the other one is formulated for moderately thick general multilayer shells. A comparison of results with known solutions and with predictions from an element available in a commercial package is made and excellent accuracy in predicting both displacements and stresses is observed. One application is shown in the analysis of modes of vibration of one the panels of the Brazilian first data collecting satellite.