

## Stress Concentration around Countersunk Hole in Isotropic Plate under Transverse Loading

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**Abstract :** An investigation into the effect of countersunk depth, plate thickness, countersunk angle and plate width on the stress concentration around countersunk hole is carried out with the help of finite element analysis. The variation of stress concentration with respect to these parameters is studied for three types of loading viz. uniformly distributed load, uniformly varying load and functionally distributed load. The results of the finite element analysis are interpreted and some conclusions are drawn. The distribution of stress concentration around countersunk hole in isotropic plates simply supported at all the edges is found similar and is independent of loading. The maximum stress concentration also occurs at a particular point irrespective of the loading conditions.

**Keywords :** stress concentration factor, countersunk hole, finite element, ANSYS

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