

Load-displacement behavior of glass fiber/epoxy composite plates with circular cut-outs subjected to compressive load

ABSTRACT

An experimental study of the behavior of woven glass fiber/epoxy composite laminated panels under compression is presented. Compression tests were performed on to 16 fiber-glass laminated plates with and without circular cut-outs using the compressed machine. The maximum load of failure for each of the glass-fiber/epoxy laminated plates under compression has been determined experimentally. A parametric study was performed as well to investigate the effects of varying the centrally located circular cut-out sizes and fiber angle-ply orientations on to the ultimate load. The experimental work revealed that as the cut-out size increases, the maximum load of the composite plate decreases. Also, it has been observed that cross-ply laminates possess the greatest ultimate load as compared to other types of ply stacking sequences and orientations.