

Corner loading, center loading, and edge loading

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Loading 5-4 Coordinates of 36, 17.6 Maximum stress 172.229 psi Corner loading illustrates a case of loading where the point of application of the load is not at a uniform distance from all the edges. As such, the resultant stress on the surface varies with respect to the changes in direction of the resultant stresses to the point of application of the load (Olson 8). The loading condition also does not have a uniform pressure.

5-5

Coordinates of 12, 36

Maximum stress of 52.592 psi

Center loading illustrates a case of uniformly distributed load on a surface. As such, the point of application of the load has a central point at equal distances from all the edges of the surface. The load has a uniform pressure. Such illustrates sharing of the surface stresses on all edges, which results in minimal stress at the point of loading on the surface.

5-6

Coordinates of 30, 17.6

Maximum stress of 97.688 psi

Edge loading depicts a case of loading where the point load occurs at a distance from the edge. Thus, the associated pressure of the point load is at a uniform distance from the edge of surface where the load condition occurs.

Severe loading

The severe loading is corner loading. This is because it results in more stress accumulation since the resultant stresses increase with the x-axis coordinate. Such occurs because corner loading has more resultant stresses in comparison to center and edge loading. Further, corner loading does not <https://assignbuster.com/corner-loading-center-loading-and-edge-loading/>

have a uniform point of pressure application.

Works Cited

Olson, Roy. Stress Distribution. Web. Oct 28, 2014.