

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions.

Purpose of this research is to investigate the effect of uniform axial compression on the minimum weight of internally stiffened cylindrical shells. It is obvious from the results of this research that when the uniform axial compression is increased the minimum weight is also increased but at a lower rate. The curve of minimum weight against uniform axial compression in Figure 6 is very flat. When the uniform axial compression, \bar{N} , is increased from 800 lb/in. up to 900 lb/in. or 12.5 %, the minimum weight, W_{\min} , is increased from 703.4 lb up to 711 lb or only 1 % (approx.). \bar{N} is then increased up to 1000 lb/in. or 25 %, W_{\min} is increased up to 740 lb or about 5 %. Finally, when \bar{N} is increased up to 1100 lb/in. or 37.5 %, W_{\min} is increased up to 780 lb. or about 11 %.

Recommendations.

In this research the stiffening members are tee stringers and rectangular rings (TSRR). Results from this work can be extended to other types of stiffening members and it will help the designer to predict the minimum weight of the stiffened shell when uniform axial compression is increased. Furthermore, the

results from this research can be extended to the possible investigations such as investigation of the effect of torsion or combined torsion and axial compression or bending or combined bending and axial compression on the minimum weight of internally stiffened cylindrical shells in the future.