

6.0 CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

The extensive study on comparison of steel quantity required for medium span roof structure, between two steel families, under same imposed and super imposed loading, shows CFS required lesser steel quantity than HRS. These findings will directly effects to the construction cost of roof structure.

When compared the cost of roof structure, under the terms of total cost and unite cost, it was obvious that a great saving for medium span roof construction can be achieved. According to the results obtained, maximum cost saving has been occurred between the rang of 8.0m to 10.0m span. The percentage saving within theses identified range varies between, 24% to 25 %, which generates the significant reduction on the medium scale construction cost.

By considering the availability of the CFS section in Sri Lanka, Minimum section was considered as 100x1.2-C, for this study. If further smaller sections are available for construction, the optimum cost saving range could be expanded toward the lower spans range, and future studies are required to be carryout to identify the exact benefits.

According to the current market price of material in Sri Lanka, RS 3000/- to RS 3200/- per unit area of (1.0m²) can be saved for a medium span roof structure.



6.2 RECOMMENDATION

According to the finding of this study, cold form steel members for medium span roof trusses up to 12.0 m span, can be recommended with a total cost saving of 25% for whole roof structure. The recommended optimum beneficiary span range is lying, between 8.0m to 10.0m span.

Therefore cold form steel will provide a sound solution as a alternative construction material for rapidly increasing construction cost in Sri Lanka construction industry.

6.2.1. Recommendation for future work.

This study was limited to actual truss forms and bay spacing. Check the optimum cost of roof structure by varying the truss forms and its spacing, and for its combinations would give the most finest result in future study.



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