Faculty of Computing, Engineering & Science

Support Bracket Analysis

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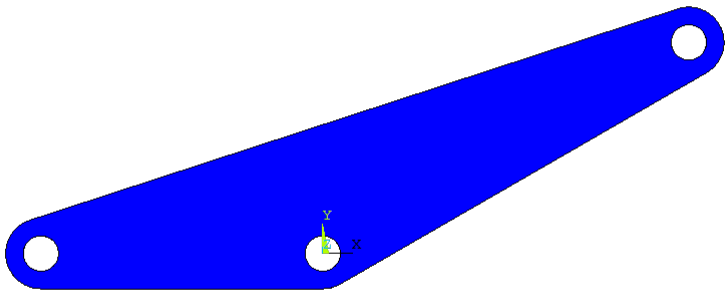
Contents

1 Introduction

Support brackets are omnipresent and decisive for many construction, even if many people are not aware of them. As the name implies they support crucial parts of a constructions by holding a weight or by holding two parts together.

In this paper a support bracket with a specific load is investigated.



The intention of this research is to determine, whether the internal stresses cause a plastic deformation.

2 Assumptions

1. static
2. homogeneous material
3. isotropic material
4. Linear elastic

5. two dimensional
6. plane stress (small thickness)
7. weight can be ignored (no gravity)
8. Evenly distributed load (1885 N at each point)
9. Friction is ignored
10. Axle/Pins are rigid
11. Pins/Axle fits perfectly in holes

3 Modelling the analysis

4 Results

5 Discussion

6 Conclusion

References