

Reflective Work Package Report

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March 28, 2023

1 Introduction, Project Goals & Objectives

2 Project Plan

3 Outcomes, Issues & Achievements

4 Conclusion

In conclusion, this experiment allowed us to study the behavior of a portal frame under gradually increasing loads and compare the experimental results with theoretical predictions. We identified the plastic hinges, assessed the frame's behavior, and noted a discrepancy in the collapse load between theory and practice for the deflection (23.8%), which could be attributed to geometric differences and material imperfections.

From observing ??, it can be seen that the W curve changes very dramatically in the initial stage, which may be due to testing errors and a low sampling frequency. Here are some methods for improvement:

- Increase the amount of data for the experiment. The experiment should increase the sampling density to obtain a more accurate point.
- There is experimental randomness. If conditions permit, it is possible to test more identical modular frameworks, and the resulting data will be more reliable.
- Extend the experimental process. If conditions permit, it is possible to try applying larger loads to explore the material's subsequent plastic deformation behavior.