

Master thesis

Tests on fixings on real-scale concrete diaphragm slabs under earthquake loads



The design of earthquake-resistant structures is a critical aspect of modern engineering. Fixings play a significant role in ensuring the safety, stability and functionality of structures and non-structural elements during seismic events. To investigate this topic, we endeavor to conduct experimental testing on fixings on real-scale concrete diaphragm slabs subjected to earthquake loads.

The specific objectives include experimental and special measurement exercises. In particular the thesis aims to:

- Conduct experimental testing on real-scale concrete diaphragm slabs and measure crack widths with high-precision optical tools.
- Analyze the performance of fixings under different loading and slab configurations
- Compare the experimental results with analytical predictions and numerical simulations to validate the accuracy of the models
- Develop practical design recommendations for the use of fixings in concrete diaphragm slabs under seismic loads

The thesis offers an exciting opportunity for a student to conduct real-scale experimental testing with advanced measurement technologies and gain skills in specialized structural engineering topics. The findings of this study will contribute to the development of practical design guidelines for the use of fixings in buildings located in earthquake-prone regions.

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