

FMT

Master Thesis (MA, 30 ECTS)

Working title Back analysis of strain gauge data installed at lintel/cill beams of an opening frame at a connection between a new SCL tunnel to an existing Cast Iron tunnel.

Description

As part of an extensive upgrade to an existing underground station a series of new SCL tunnels are connected to existing cast iron segmental lined tubes. The opening frames have been designed considering ground load reduction in order to optimise the size of the lintel/cill beams. To verify the design assumptions a set of strain gauges were installed on the opening steel beams.

The master thesis present the detailed interpretation of collected measurement data from the installed strain gauges in comparison to the design (created by a combination of 3D FEA and hand calculation).

Work flow:

- literature research (state of the art)
- data collection and study of design reports
- systematic interpretations / comparison
- estimation of the actual opening frame load,
- assessment of the actual ground loading in short and long terms
- presentation of findings
- preliminary and final presentation and written report (master thesis)

Requirements: Knowledge on conventional tunnelling and on support methods and -properties; Systematic, detailed and accurate way of working; Interest to work and discuss with several engineers.

The study will be done in close cooperation with Dr. Sauer & Partners Ltd., London.



Start: Immediately / by agreement

Duration: approx. 6 months

Supervision	Affiliation	Contact details
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