

CIV-E4040 Reinforced Concrete Structures

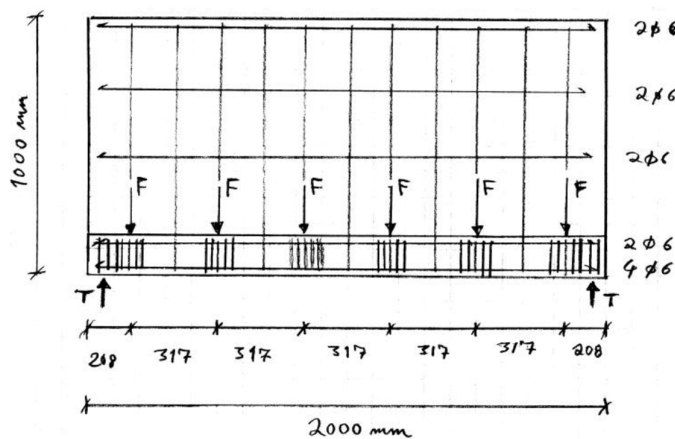
Examination 16.4.2020 (remote examination using My Course)

A precondition for the participation in the examination is the fulfilment of compulsory parts of the course in the spring 2020 or earlier.

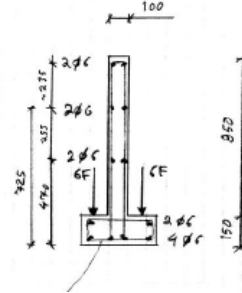
Scan your handwritten answers and upload the scanned document as a pdf-file within the period given for this task.

3. The figures below represents a test made for a high beam. (altogether 5p)
 - a) Identify the failure mechanisms that can be observed in the figures (2p)
 - b) Define a strut-and-ties model or models that could be used to study structural capacity for the failure mechanisms. (2p)
 - c) Justify the mechanism that led to the final failure. (1p)

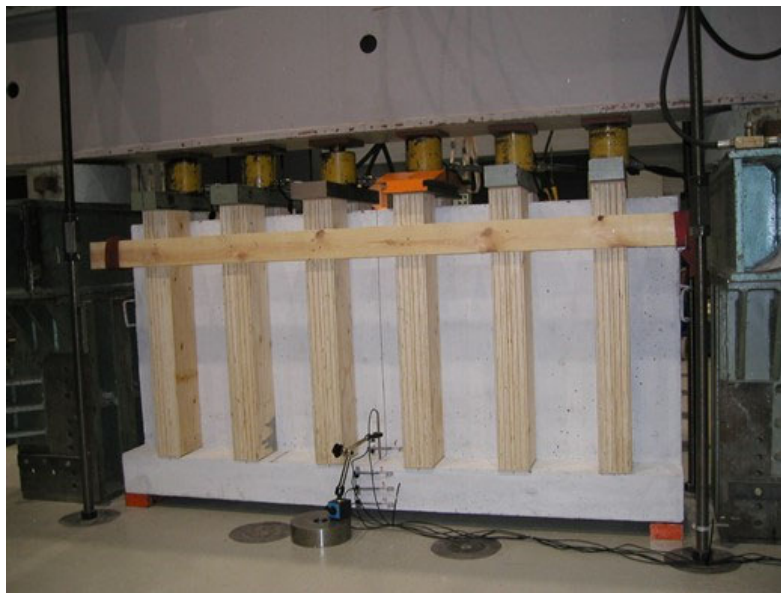
Geometry, reinforcement and loading of the beam



Stirrups differ from the drawing:
At loading points (F):
3Ø10
At supports (T)
3Ø6

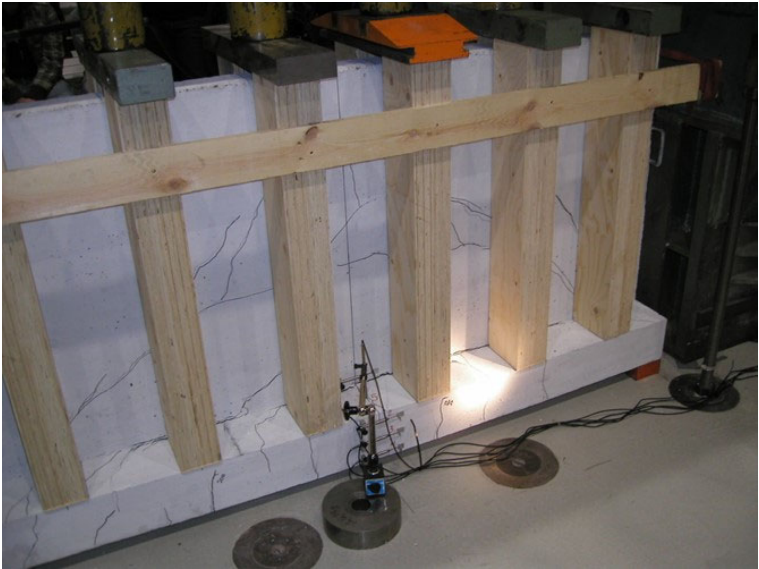


Test arrangement in the testing hall



Question continues on the next page

Developing of craking



Cracking at the maximum load



Cracking on the lower end of the beam

