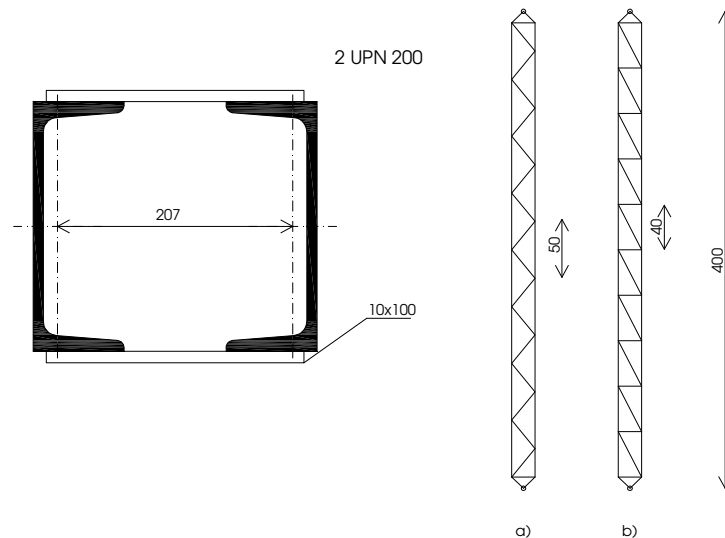


Module B

## Stability of Steel Structures

Week 3 – Topic: Stability of Built-up Steel Members

Homework 1: Perform the stability check for the following built-up column whose section is made out of two profiles UPN 200 (steel grade S 275) axially loaded by a force  $N_{Ed}=1000$  kN and represented in the figure. Consider both the schemes reported as case a) and b) within the figure and compare the corresponding critical loads.



Finally, perform the same stability check for steel S 355.

Homework 2: Consider the same beam-column of the previous problem and perform the stability check after assuming a battened solution with 10x100 mm<sup>2</sup> plates spaced at 300 mm. Finally, determine the ultimate axial load capacity  $N_{b,Rd}=N_{Ed,max}$  of the beam column.