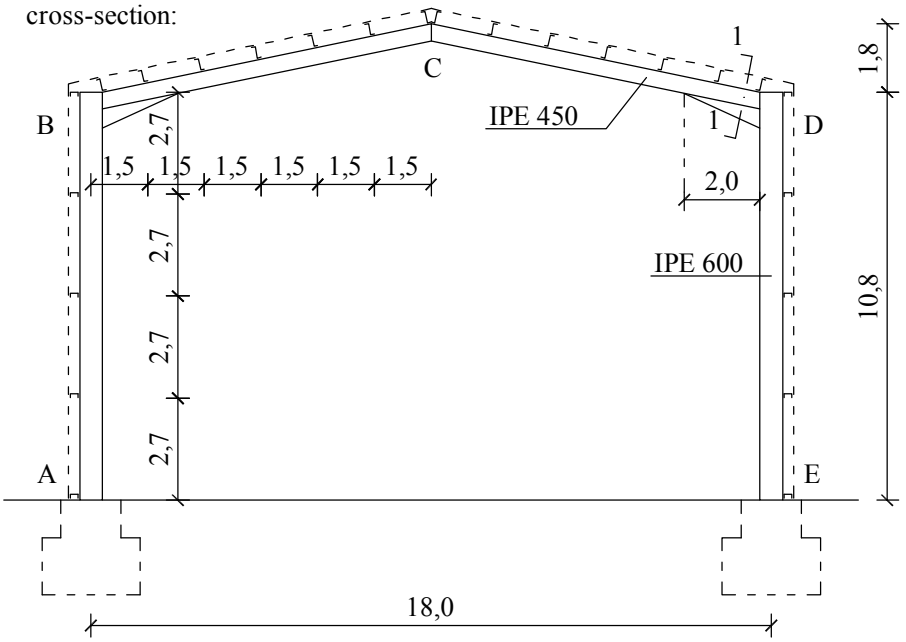
STEEL AND TIMBER STR. - HOMEWORK 1. - deadline: 19.10.2012.

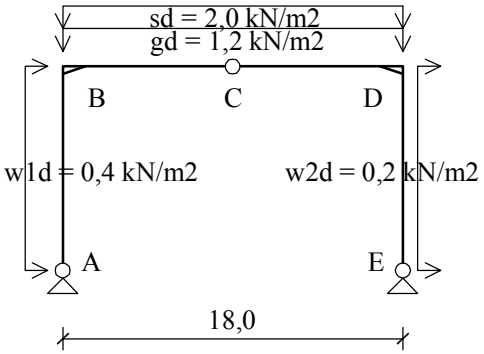
cross-section:

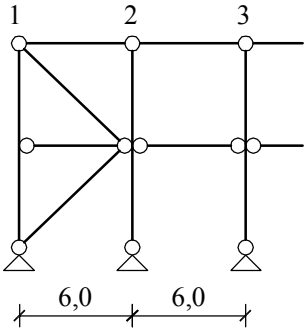


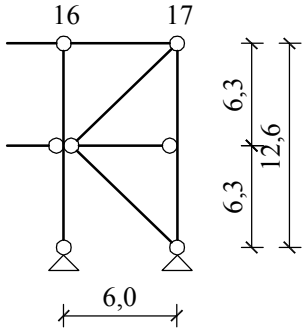
Steel hall (brick factory, Solymár, Hungary)

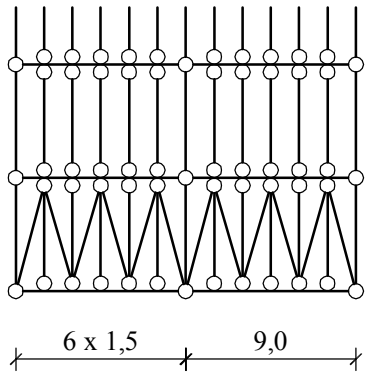
S355 material

statical model:



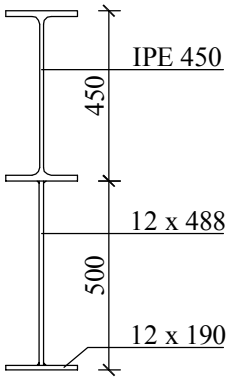






17 axes altogether, bracing systems at the ends of the hall

1-1 section (frame corner D):



a) Draw N, V, M diagrams of the frame (the given statical model can be used)! [8p]

b) Check beam CD (normal force can be neglected)! If it is not safe, what modifications can be made on the structure? [8p]

c) Check the cross-section of the beam at frame corner D (normal force can be neglected)! If it is not safe, what modifications can be made on the structure? [8p]

d) Check column DE! If it is not safe, what modifications can be made on the structure? [10p]

e) Calculate the forces in the roof-bracing and the wall-bracing! Consider initial imperfections and wind load (0,8 kN/m2). [6p]