

## English summary

Rakenteiden Mekaniikka (Journal of Structural Mechanics)  
Vol.43, No, 2010, pp 61-71

### Use of high-strength steel (HSS) in heavily loaded welded box columns

Juha Kukkonen

**Summary.** In this paper is studied use of high-strength steel (HSS) in heavily loaded welded box columns. Strength calculations are performed using standards SFS-EN 1993-1-1 and SFS-EN 1993-1-12. Welded box columns are designed with different steel strength grades. In this study the prices of different steel strength grades are also taken into account when comparing the economy of columns. Studied columns are the columns supporting boiler hanger beams in the boiler building which have been built or under construction. Based on the results conclusions are made for use of HSS in similar structures.

*Key words:* high-strength steel, steel skeleton of boiler building, welded box columns, Eurocode 3