

Lower-Bound Limit Analysis Results for a NAFEMS Publication Problem

The following plate problem was studied in [1]. The plate has dimension 4m x 0.8m x 0.015m, is fixed on one edge and loaded with a UDL and has a yield stress of 235MPa. The following figures are the moments and von Mises utilisation at collapse. The collapse UDL is close to 425KPa according to EFE.

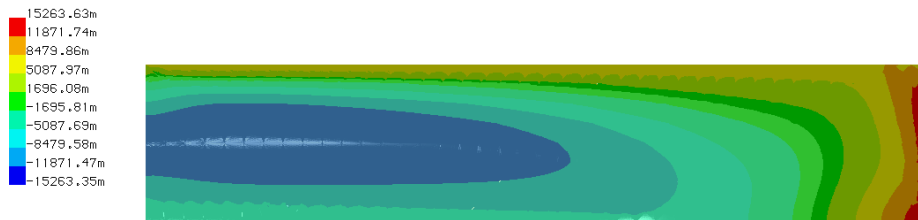


Figure 1: Mxx

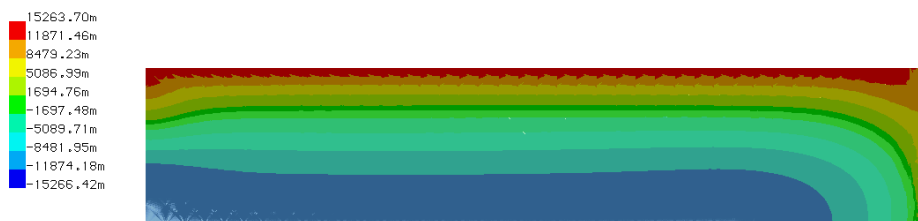


Figure 2: Myy

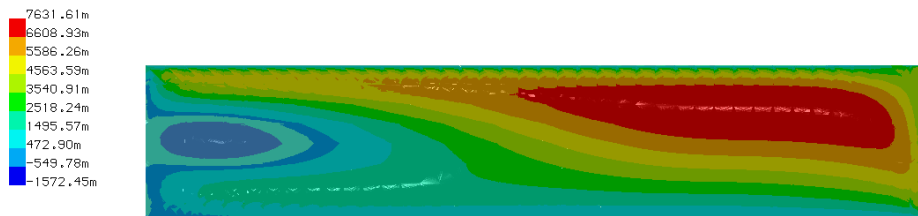


Figure 3: Mxy



Figure 4: Utilisation based on von Mises yield criterion

[1] Jack J Reijmers, *Plate Collapse – A Challenge for FEA*, NAFEMS Benchmark Magazine April 2004