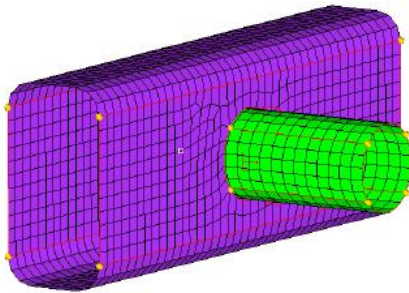
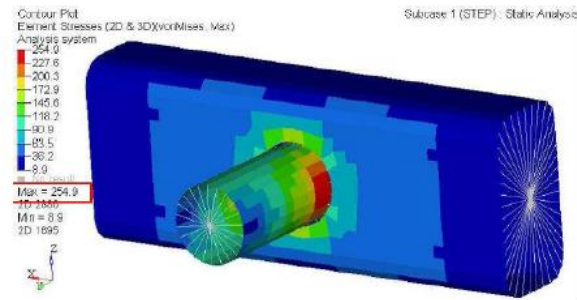


Shape Optimisation

- Requires you to have knowledge of the kind of shape you would like to change
 - Fillet radii

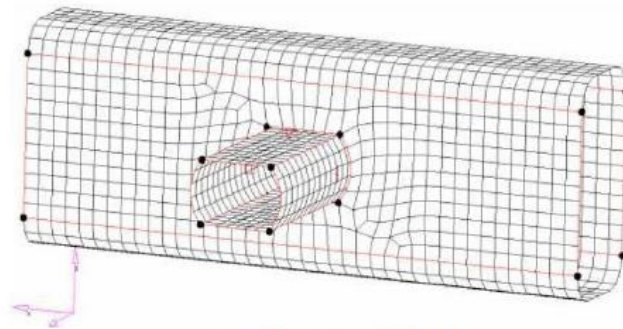


Rail Joint

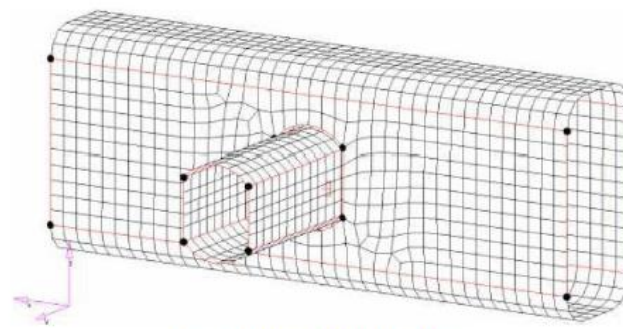


Von Mises Stress For The Initial Design (255 MPa)

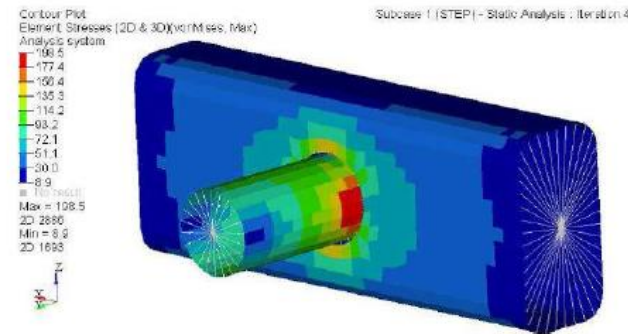
Shape Optimisation



First Shape Variable sh1

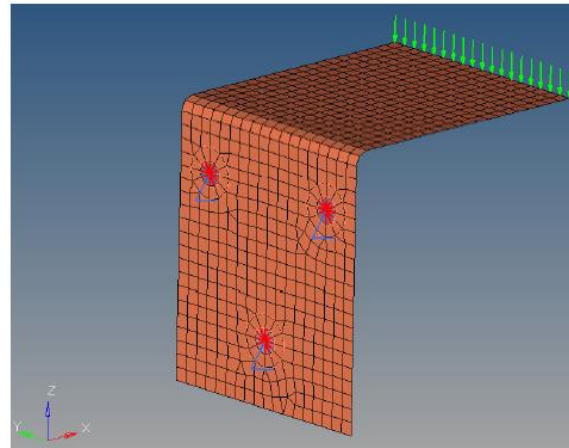


Second Shape Variable, sh2.

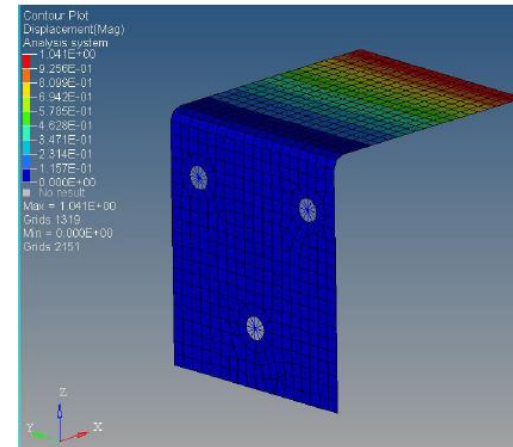


Von Mises Stress For The Last Iteration (Max < 200 MPa)

Shape Optimisation – e.g. size of bead in bracket

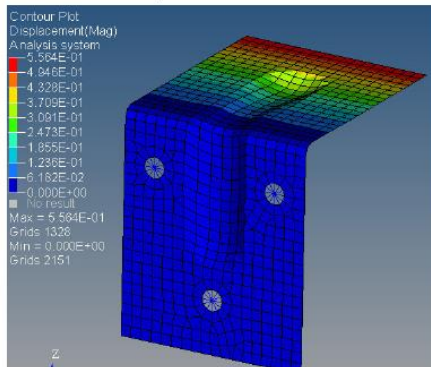
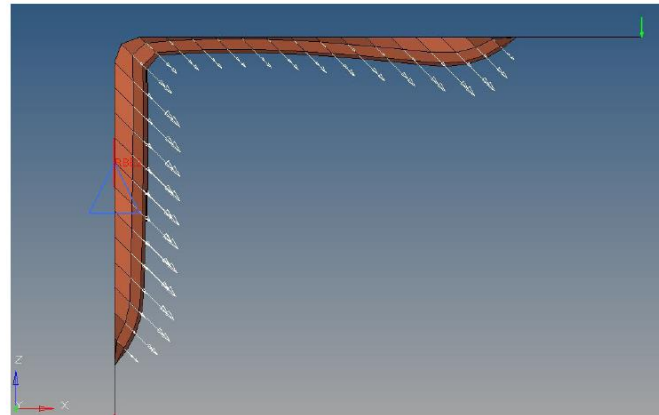
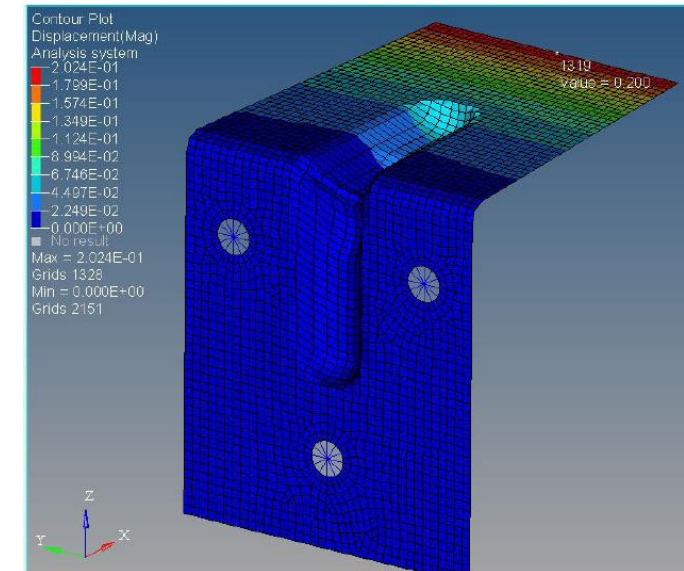
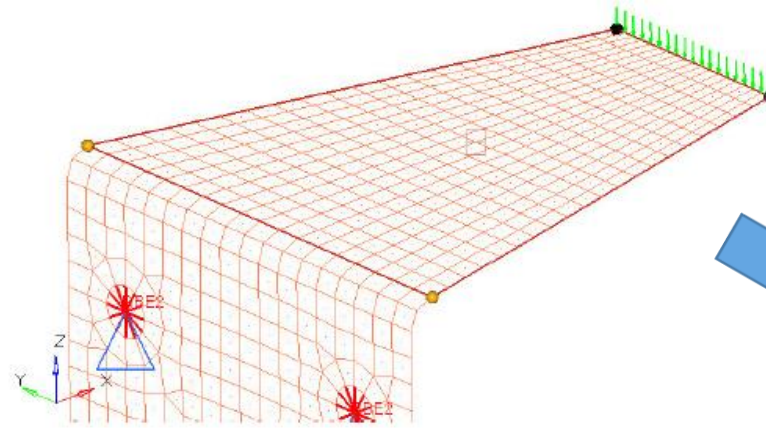
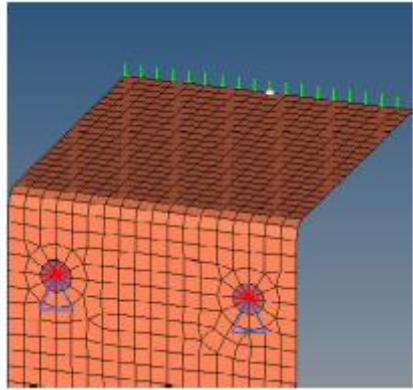


Bracket Without Bead (base design)



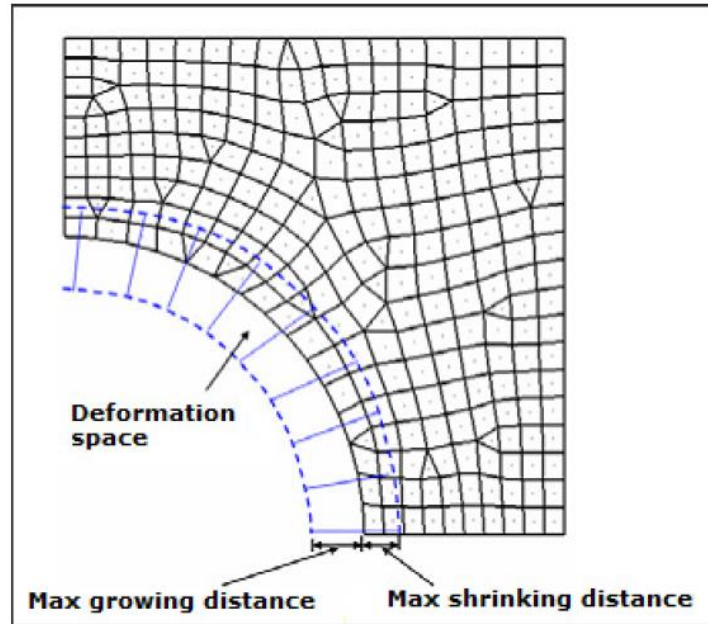
Displacement Contour Plot (max. 1.04 mm)

Shape Optimisation



Free Shape Optimisation

- Solver moves nodes within a certain distance specified



Notes adapted from/Further reading

- Practical Aspects of Structural Optimisation, Altair University, 2014