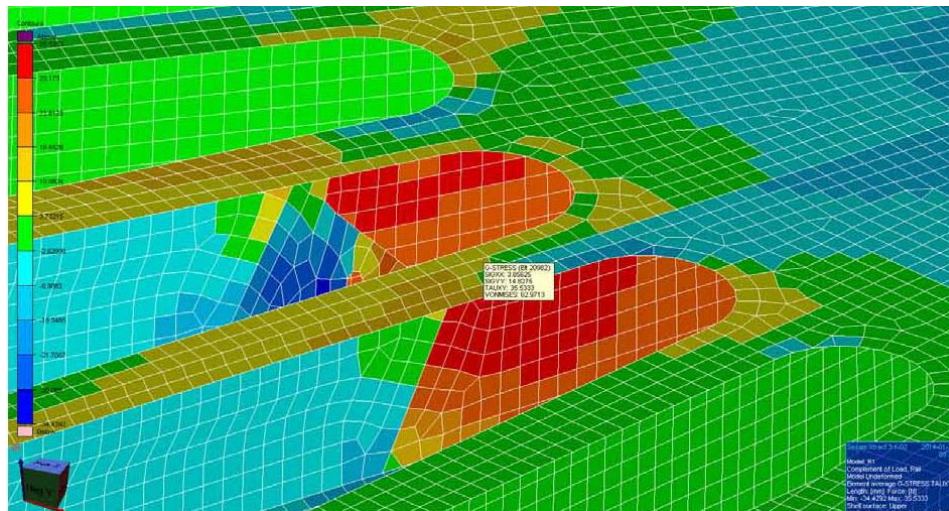




Drammen Yard offers:

FEM Analysis

As part of Drammen Yard's engineering, FEM Analysis are performed for all important parts of the construction.



For those, unfamiliar with the concept of FE-analysis and FEM (Finite Element Modelling), this is a brief introduction to the principles behind the results.

In FE-analysis the complete geometry remains intact while it is replaced by a mesh consisting of elements of various sizes and shapes in order to best depict the geometry.

Generally, the smaller the elements, the better results, but with decreased size comes increasing computational times and requirements on performing hardware.

Properties are then assigned to each element in terms of thickness and material in order for the mesh to best represent the behavior of the original structure. Finally, statically and sometimes dynamical loads are applied on the mesh in various ways and later combined into load-combinations.

An important part of FE-analysis is the method and ways chosen to “hold on” to the model while forces are applied. Incorrectly applied boundary-conditions (generally referred to as BC:s) can generate inaccurate results so this is an important aspect of the modelling which in the naval sector becomes even more important due to the increase in degrees of freedoms (DOF:s).

Results are commonly evaluated using colour-plots from the different load-combinations showing the accumulated effective stress (usually von Mises) and sometimes also shear-stress and deformation in increasing reddish colours to indicate critical levels.