

CASE STUDY

FLUID CODES

 SOFTWARE  SUPPORT  TRAINING  CUSTOMIZATION

CONTACT OUR LOCAL OFFICES

UNITED ARAB EMIRATES +971 4330 8666
SAUDI ARABIA +966 13 8318182
EGYPT +971 4330 8666
BULGARIA +359 88 8813820
UNITED KINGDOM +44 20 3753 4607

 sales@fluidcodes.com
 consulting@fluidcodes.com
 fluidcodes.com

Roof Configuration of a Storage Tank

CHALLENGES

Storage Tank can fail for several reasons of which corrosion can be the major cause.

The customer wanted to validate the roof configuration for its structural integrity and also to validate the tank under a seismic load.

ENGINEERING SOLUTION

The geometry was provided by the customer in its native CAD format and with CAD interface in ANSYS it was possible to directly import the geometry. The roof configuration was verified with the various operating conditions.

The finite element analysis with seismic load condition was performed and base shear and overturning stability were validated with maximum allowable values.

A separate parametric study was performed on the roof structure for an optimum thickness and to identify a better roof configuration.

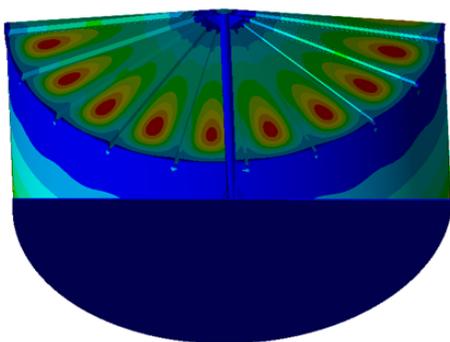


Figure 1. Displacement Plot of Tank

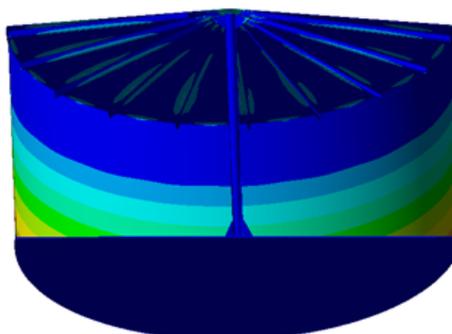


Figure 2. Stress contour plot of Tank

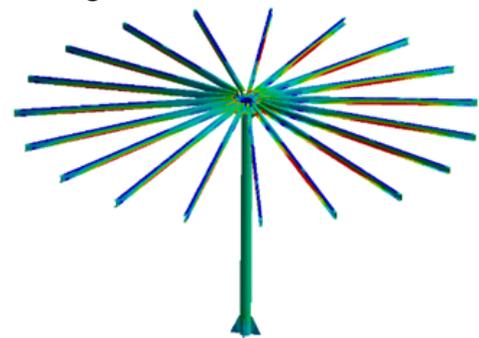


Figure 3. Stress contour plot of roof configuration