

# Foster Wheeler Asia Pacific Pte Ltd



Oil &amp; Gas

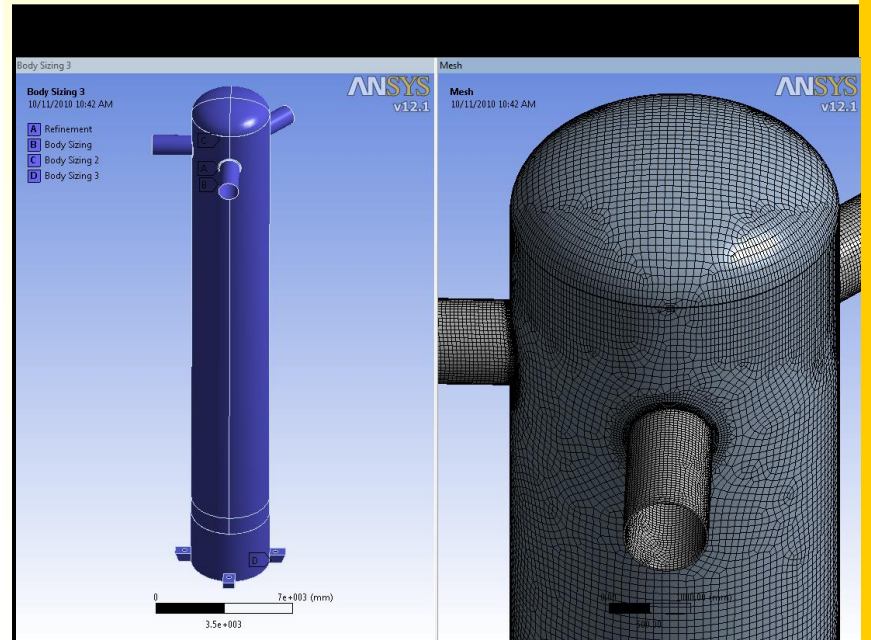
Singapore

## Overview

Foster Wheeler is a global engineering and construction contractor and power equipment supplier, with a reputation for delivering high quality, technically advanced, reliable facilities and equipment on time, on budget and with a world-class safety record.

Foster Wheeler designs, engineers and constructs leading-edge processing facilities and related infrastructure for the upstream oil & gas, LNG and gas-to-liquids, refining, chemicals & petrochemicals, pharmaceuticals, biotechnology & healthcare, mining & metals, environmental and power industries.

In addition, Foster Wheeler owns industry-leading technology in delayed coking, solvent de-asphalting and hydrogen production processes, and have access to numerous technologies owned by others, while also providing international environmental remediation services with related technical, engineering, design and regulatory services.



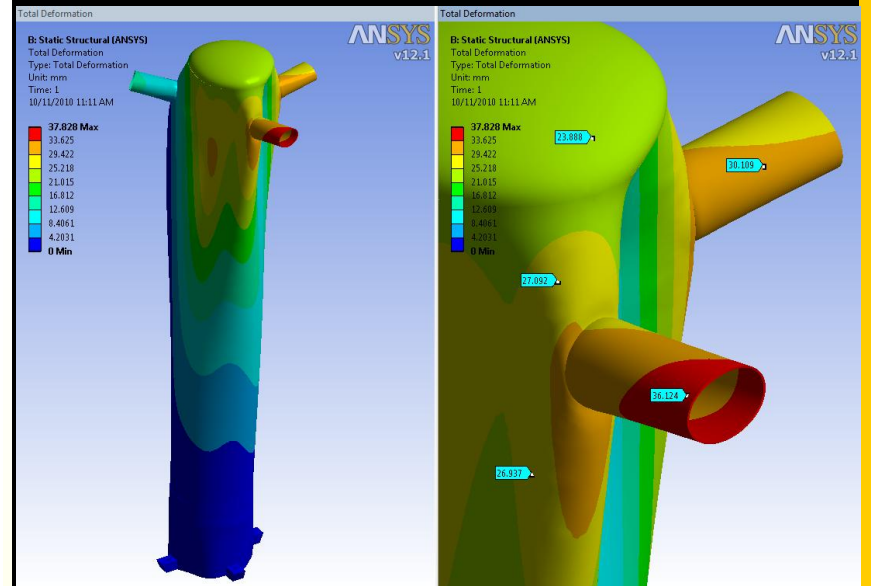
## Testimonial

Foster Wheeler has been using ANSYS since 2006. ANSYS allows us to address the finite element problems related to pressure vessel analysis and its designs, efficiently and effectively.

Foster Wheeler uses ANSYS Professional NLT to provide quick design changes and more accurate results for better fabrication of industrial pressure vessels.

We are also grateful to CAD-IT Consultants for their prompt technical support, who go the extra mile to ensure customer satisfaction.

S. R. Reddy  
Chief Mechanical Engineer



Scaled-up view

### Process

Pressure vessels are commonly used devices in industrial process plants. Presently, the current code formulae do not provide for the comprehensive stress distribution in geometries where there is a profile change and intricate shapes.

In addition, the stress distribution arrived for nozzle local load using (WRC 107 / WRC 297) formulae may be overly conservative or will have some errors if the geometry is beyond its specified range.

### Solution

In order to avoid localized stress at the nozzle to shell junctions, we introduce smooth transitions, e.g. putting in smooth weld profiles at those locations by doing proper modeling work.

The smooth weld profiles are very useful to eliminate the occurrence of localized maximum stress around the nozzle to shell junctions.

### Benefits

Through the use of ANSYS, we have been able to successfully optimize the design of pressure vessels.

This has enabled us to reduce cost and time, as well as to deliver a product that fulfills its intended purpose excellently.