



Case study

Better Welds on Chassis Structures

THE DANGER OF DISTORTION

The heat from welding can cause plate structures to distort to beyond their allowable tolerances. This problem has been known for many years, yet defining an appropriate welding strategy remains more of an art than a science. However, our fundamental research gives us a world-leading modelling tool for predicting problems and choosing a solution.

WELDED FRAMES

For example, a customer of ours had attempted to modify an existing chassis frame by welding an additional structure to it. They had taken advice and been assured that the approach they wished to follow was sensible. However, initial fabrications showed that the distortion was unacceptable and the frames, now beyond tolerance, were scrap.

A SCIENTIFIC APPROACH

At Frazer-Nash we've developed the world's most accurate and advanced welding simulation tools. These were originally developed to meet the high integrity requirements of the nuclear industry, but have since found wide acceptance in many different industries.

PROCESS SIMULATION

By modelling the welding process used on the chassis structure we were quickly able to replicate the distortion seen in practice. The side panels twist and deflect outwards, resulting in a structure that is too wide for use. However, further simulation has shown that a revised welding pattern can successfully meet the specification.

REDUCED ENGINEERING RISK

By deploying advanced technologies like this in an active project we significantly reduce development risk. These and other modelling techniques can identify and resolve problems long before the manufacturing stage is reached, saving our customers' time and money.

Client

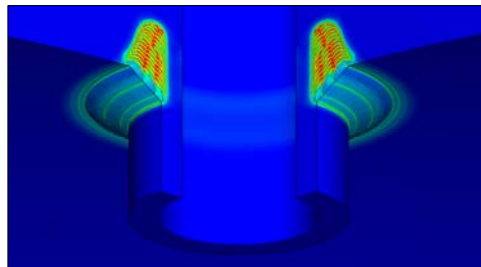
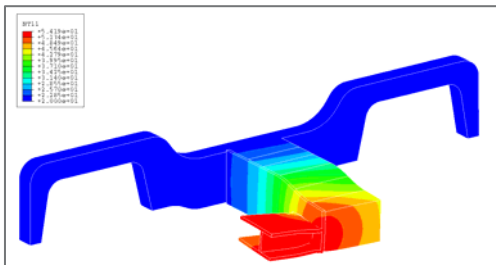
Various

Business need

Improved understand the welding process to produce more effective and longer lasting welds

Why Frazer-Nash?

Frazer-Nash expertise in welding simulation is one of the most advanced in the world.



For more information please contact
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