

Download Guide To Stress Analysis

A Guide to Fatigue Analysis This guide starts from the applications of fatigue analysis and its role in FEA simulation. Fundamental concepts and principles will be introduced such as what is fatigue, fatigue design philosophy, life estimation methods, stress life approach, etc...Autodesk Inventor has an add-in named Stress Analysis that is based on FEM (Finite Element Method) (We'll get into what FEM is in a while!) The goal of this tutorial is to hold your hand while you try out your first FEA (Finite Element Analysis). There's also a FEM exercise at the bottom of this page.

Stress Analysis of Piping. To find the stress in the small element, say cube of a piece of pipe, construct a three-dimensional, mutually perpendicular principal axis system with each axis perpendicular to the face of the cube it intersects. Each force, acting on the cube can be resolved into force components, acting along each of the axis.

Step 2. In case thermal stress ratios exceed "yellow" zone (and are in "orange" and "red" zones in one or more areas of the piping system), it is important to study the thermal case deformed shape provided by CAEPIPE in order to understand how the piping responds to "pure thermal" load.