



Pipe Stress Analysis

Pipework within power stations and other engineering structures are subject stresses and strains as part of the regular operating environment. If the loading and environment to which the pipes are exposed is not properly understood and controlled, it can lead to materials becoming damaged and a possible loss of containment or pipework failure.

Through the use of pipe stress analysis, piping systems are evaluated to identify stresses throughout the system, establishing whether the layout meets the criteria specified in the relevant design code. Pipe stress analysis is suitable for simple and complex designs, and considers both static and dynamic loads. EASL has a wealth of experience of representing systems for the purposes of code compliance assessments, design, modification, and fitness for purpose assessments.

Whether at a design stage, manufacture or when operating, assessing the stresses in piping, and the associated risks of failure, allows clients a clear view of material lifetime expectations and appropriate maintenance strategies to ensure the most cost-effective and efficient solutions.

What is pipe stress analysis?

Pipe stress analysis investigates the loads arising from the combination of:

- dead-weight
- thermal expansion
- cold-pull
- wind and snow loading
- dynamic effects
- and considers these against the requirements of a selected design code.

The interaction of these loads may be complex, and has implications upon the design of suitable arrangements for the pipework, its fittings and supports. Safe piping design avoids overstressing or overloading components, equipment and supports.

EASL's particular experience in pipe stress analysis is in nuclear power plant and petrochemical systems, however our expertise would be beneficial for any piping system in which safe operation is of concern. Our service allows the integrity and safety of systems to be maintained from the design stage through to the system's end of life.

EASL's pipe stress analysis services

From the initial stages of a project to delivering the final product, EASL ensure that all details are covered in our pipe stress analysis through on-site survey, clear communication with our client's wider team, and the oversight of experienced EASL staff.

EASL's expertise in pipe stress analysis ensures a knowledgeable approach and sensible consideration of the available information, allowing a high quality, cost effective service. Our pipe stress analysis specific quality procedures will also provide peace of mind that EASL's analysis will consider all of your requirements.

With wide ranging experience in structural analysis, EASL are able to offer advice and provide solutions for any issues encountered throughout the pipe stress analysis process. Providing cost-effective expertise, EASL can deliver clarity through our specialist service.

To find out more about our previous work with pipe stress analysis, please see our case studies below, or for more specific pipe stress analysis information, get in touch on enquiries@easl-stress.co.uk.

Related Services

- Stress Analysis
- Structural Analysis
- Computational Fluid Dynamics (CFD)