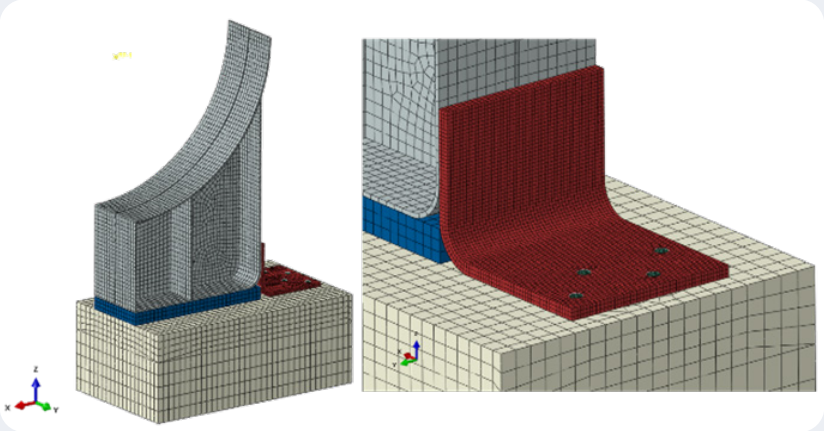
# Expert Review of Water and Wastewater Piping Supports

KINECTRICS

## Project Objective

During the commissioning of a new installation, a pressure test revealed significant movement in one of the piping systems, indicating that the piping supports did not meet the design criteria. Kinectrics was engaged to assess numerous installed pipework supports in other systems to either confirm their integrity or recommend modifications to ensure their fitness for purpose. A rapid response was critical to avoid delays in the startup of the client's installation.



FE design of angle brackets

Project Scope:

- Conducted a design assessment of installed pipework supports against BS EN 13480.
- Identified supports requiring further analysis or modifications for compliance.
- Delivered tailored solutions for each support to fit within existing plant constraints.
- Generated calculations, CAD drawings, and design submissions to meet client requirements.
- Provided ongoing support throughout installation and beyond, addressing emerging issues.

# Technical Approach

1. Initial Design Assessment
   We utilised its expertise in pipework analysis and design substantiation to review the existing support designs against BS EN 13480. The client provided support designs, associated loading data from pipe stress analysis software, and an overview of the plant layout. Kinectrics assessed each support to determine if the designs met the code requirements.

2. Further Assessments for Non-Compliant Supports
   For those supports that did not meet code requirements, further analyses were conducted. Where feasible, Kinectrics demonstrated that some supports could still be deemed fit-for-purpose. In cases where this was not possible, modifications were developed to ensure compliance.

3. Design Modifications
   Finite Element (FE) analysis was applied where it added value, and all proposed modifications were designed to fit within the existing plant layout, utilising the primary steelwork in place. Despite restrictions on site visits due to COVID, we achieved the required design modifications by reviewing drawings, site photographs, and maintaining regular communication with the client.

4. Ongoing Collaboration and Support
   We assembled a flexible team of engineers with various skill sets to ensure rapid and efficient project delivery. Throughout the project, Kinectrics worked closely with the client and other contract partners, ensuring smooth communication and collaboration. This included providing advice and design services for issues that arose beyond the initial scope.

# Value Added Results

Our rapid response and collaborative approach ensured that the client could proceed with the commissioning of their installation on time. The project highlights Kinectrics commitment to providing cost-effective, tailored solutions to meet client needs, with continued support throughout the project life cycle. This project demonstrates Kinectrics capabilities in addressing complex pipework support challenges and delivering robust, compliant solutions.

**Location:** United Kingdom