

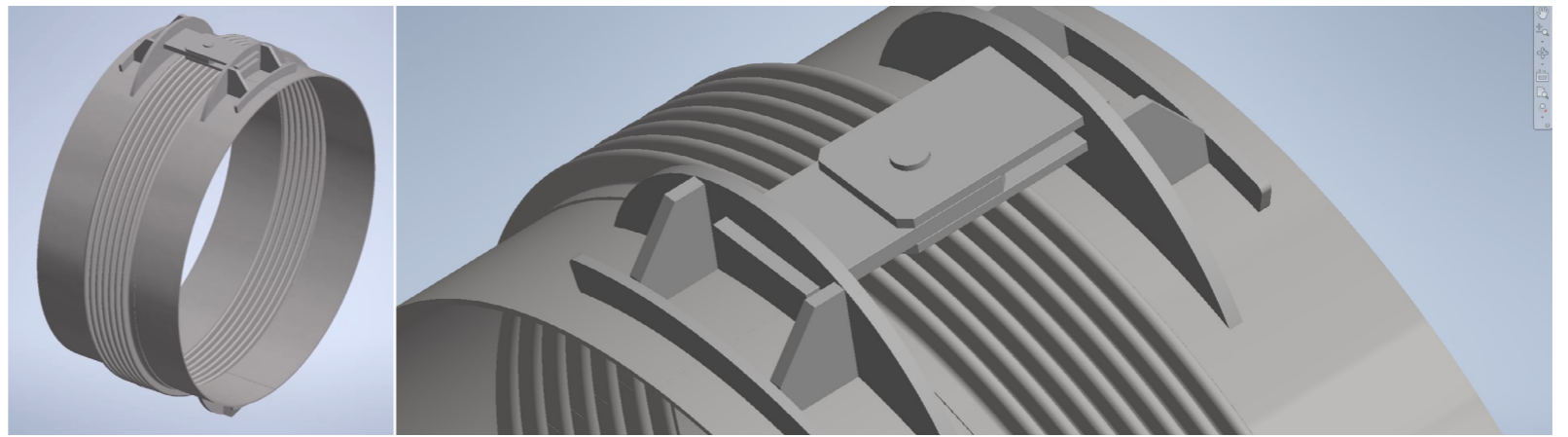
Offering special compensator based on client request. In this project a unique angular expansion joint proposed to client for maximum angular movement 25°, pressure design 10 Bar, and internal diameter DN2300.



This project was comprised of **four steps** to offer a unique compensator based on the **special request of our client**.

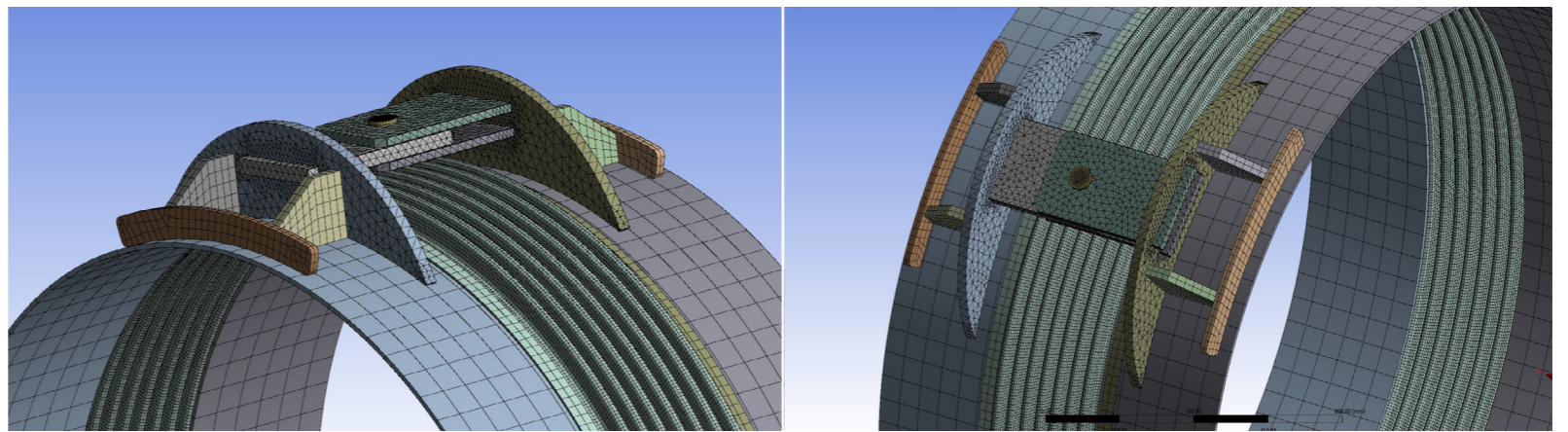
1

Performing 3D Modeling of specialized Angular Expansion joint.



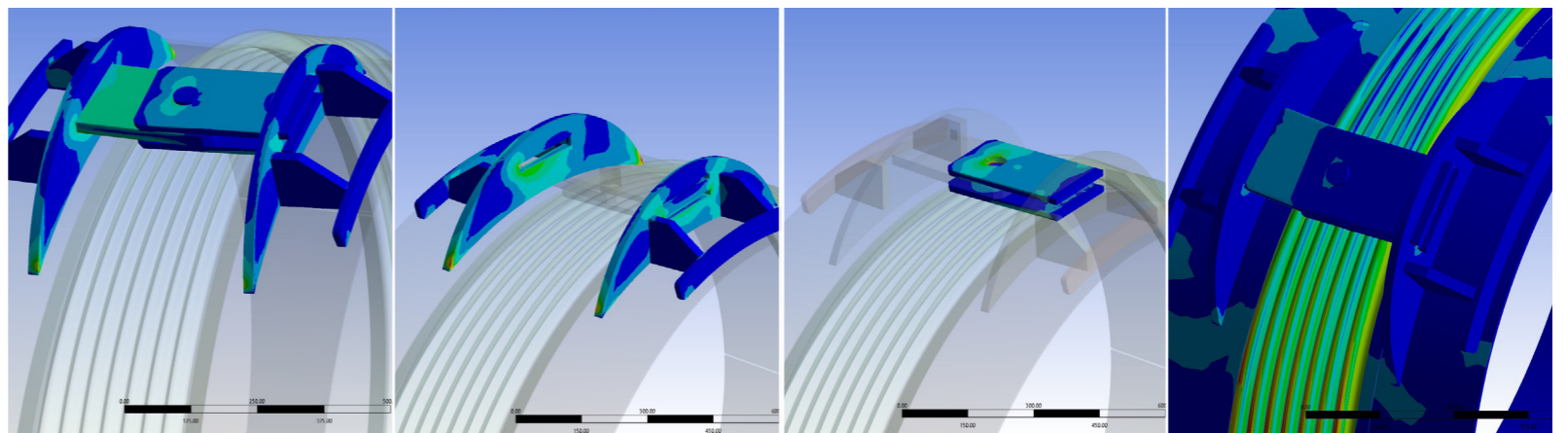
2

FEM Stress analysis calculation by ANSYS to develop new mechanism based on client request.



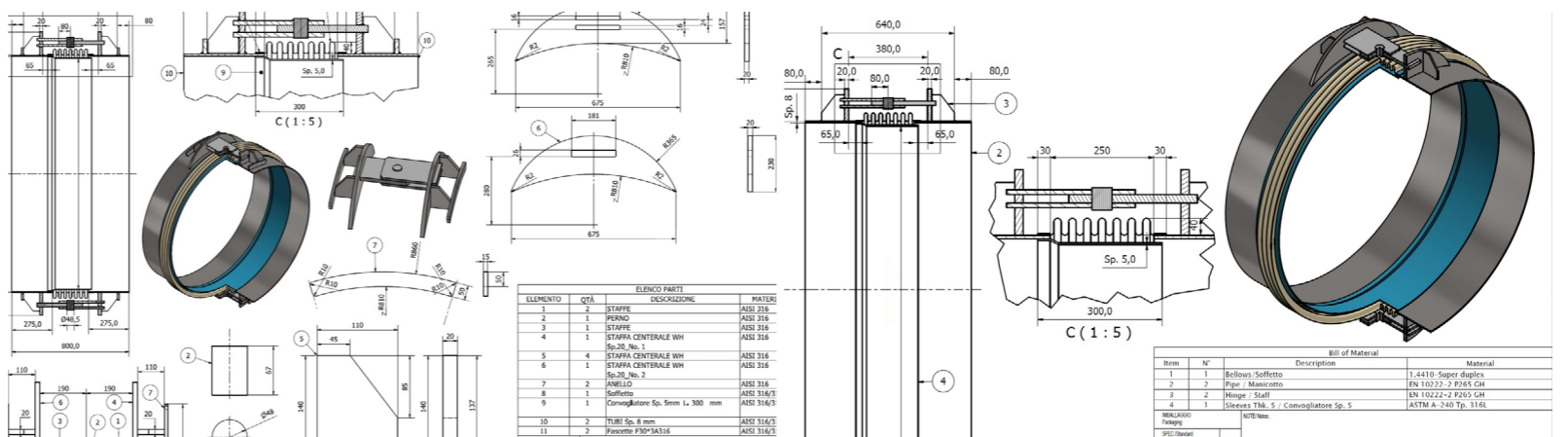
3

Choosing the suitable material based on results of FEM analysis and allowable ranges of stress for chosen material.



4

Preparing constructive designs.



CHALLENGE The main challenge was choosing a special combination of geometry and material for angular mechanism to resist the moments, forces and finally different types of stresses that created in the requested pressure, temperature, and diameter of the compensator.

STRATEGY/SOLUTION The main strategy in this project was to use FEM analysis to find the best approach for choosing the best combination of material and geometry for the special request of our client.

A special angular expansion joint DN 2300 PN10 with angular movement 25° that should work in 150°C, the compensator is mounted at the head of two gas/gas exchangers.

THE BENEFITS Offered special angular expansion joint with minimum cost production and subsequently with the minimum final price of the product and with maximum quality due to performing by FEM analysis to investigate all working condition of expansion joint in the worst cases.

