

UBE Chemicals (Asia) PLC



Petrochemical

Thailand

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ANSYS[®] Mechanical



Overview

UBE Industries, Ltd. and its consolidated subsidiaries, the UBE Group, have consistently embraced innovation since the Company's beginnings as an entrepreneurial venture to develop the coal fields of Ube, Yamaguchi Prefecture in 1897. Subsequently, we have steadily expanded the value we create by developing new businesses to meet emerging needs.

UBE Chemicals (Asia) Public Limited Company is one segment of an UBE Group (Thailand) which manufactures and sells Caprolactam, Nylon, and Polybutadiene rubber. Its product Caprolactam is used as raw material for Nylon, Nylon resin know for its use in engineering plastics, Synthetic rubbers and Industrial chemicals.

The company has focusing on its business operation on innovation and efficiency improvement under the vision "Success Driver through Innovative Technology and Operational Excellence". Since then, the company strives to become the most efficient producer and the innovative center for technology improvement.

Testimonial

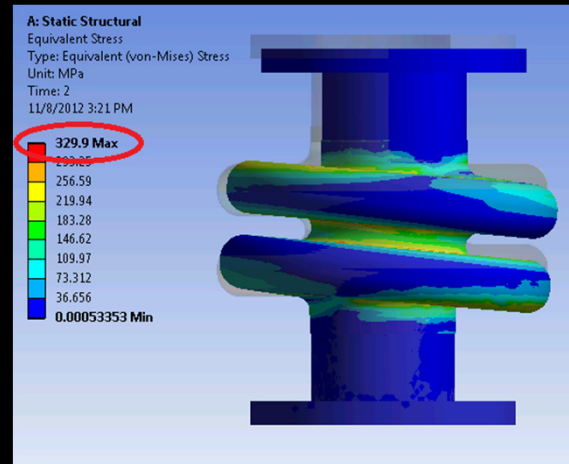
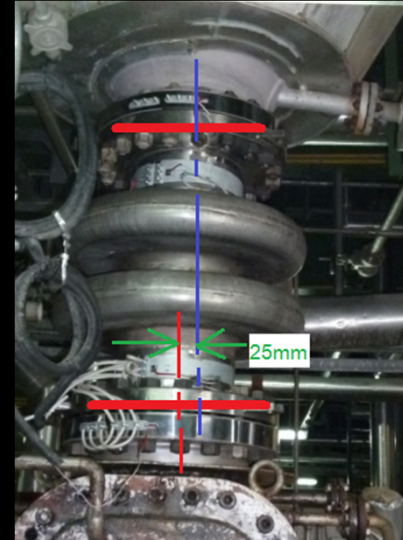
"Our Maintenance department deals with monitored / preventive maintenance to ensure reliability and integrity of equipment through the applicant of condition. So we need the precise tool that can predict the failure of the operating equipment. ANSYS Mechanical module has been used to analyze the complex problems which help us to understand the root cause of failure and to correct/ prevent it accurately. Moreover, technical support from CAD-IT is an important part of our team success. Not just help solving challenging tasks within short time period but also be a good consultant"

PISANU PUNYAPORN

Mr. Pisanu Punyaporn
Maintenance Engineer Manager

Nonthawat T.

Mr. Nonthawat Tianwong
Mechanical Engineer



Challenges

- Expansion joint is a connecting part between tank and gear pump. Misalignment from assembly lead to exceed deformation and unexpected failure.
- The geometric / material nonlinearity causes difficulties in predicting the accurate and reliable structural response to the load.

Solution

- Perform non-linear material and large deformation static structural analysis of the expansion joint under defined displacement to investigate the stress and deformation.

Benefits

- Understand the relative between stress and deformation due to varying magnitude of misalignment which help determining the allowable maximum tolerance in assembly
- Understand the structural behavior due to apply load and boundary conditions in a better view which helps in effective communication among our staffs to point out the weakest positions and critical parts for maintenance.