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## Piping Stress Analyses

A Product Information Sheet by the Plant Engineering Business Unit

### Computational Piping Stress Analyses

To assess the impact of different loading conditions on piping systems and components, the stress situation related to these loadings has to be determined and evaluated. For this purpose suitable, powerful and cost-efficient analysis tools are required to achieve reasonable and meaningful results.

Due to increasing availability and growing usage of numerical calculation methods the Finite Element Analysis (FEA) can now be considered as a standard tool for the design optimisation and verification of various applications.

At TÜV SÜD we rely on modern and internationally recognized simulation tools as well as on a highly qualified and experienced staff.

### Our Services

As an independent consultancy and service provider TÜV SÜD offers to perform or to review piping stress analyses, in particular:

- Static, dynamic and cyclic analyses
- Linear and non-linear constraints
- Buried pipings and pipelines
- FRP-piping
- Integrity analyses for piping components, supports and connecting nozzles
- As-built assessment
- Third-party evaluation

### Your Benefits

The systematic involvement of all our experts within TÜV SÜD and the combined know-how of our expert teams guarantee excellent and cost-efficient results, even in the case of challenging technical applications.

- ▶ Optimisation of piping design
- ▶ Quantification and proof of incorporated safety margins
- ▶ Identification of highly-stressed areas in the piping system
- ▶ Determination of fatigue level and accumulated usage factor
- ▶ Lifetime assessment / lifetime extension of highly stressed components
- ▶ Development of suitable in-service inspection programs
- ▶ Determination of failure root causes
- ▶ Third-party independency

**We provide worldwide services.**

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