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Finite Element Analyses

A Product Information Sheet by the Plant Engineering Business Unit

Computational Stress Analyses

To assess the impact of different loading conditions on 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 design optimisation and verification for various applications. At TÜV SÜD we rely on modern and internationally recognised 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 stress analyses, in particular:

- Static, dynamic and cyclic analyses
- Thermal and coupled thermal-mechanical analyses
- Linear and non-linear problems
- Plastic and limit load analyses
- Fatigue analyses
- Creep analyses
- Non-linear geometry including contact and instability
- Seismic load analyses including stability analyses
- Structural framework design
- Failure and Fitness for service assessments

Your Benefits

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

- Securing reliability and functionability of systems and components
- Compliance with international regulations
- Lifetime assessment / lifetime extension of highly stressed components
- Optimisation
- Lifetime extension of components with limited defects
- Definition of suitable maintenance tasks for components and systems
- Determination of failure root causes
- Third-party independency

We provide worldwide services.

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