Finite Element Analysis Made Easy

Automated FEA at Your Fingertips!

Integrating finite element analysis (FEA) into a fitness-for-service (FFS) assessment doesn't need to be expensive or time-consuming.

Equity Software® is changing asset integrity with automated, cloud-native FEA webtools that deliver efficient, comprehensive, and more cost-effective solutions for modern asset management. These webtools build upon our extensive FFS knowledge to help you seamlessly implement Level 3 analysis at your facility. You will extend equipment life, reduce downtime, and confidently justify continued safe operations.

FASTER FEA ASSESSMENTS

- Complete weeks of engineering work in less than an hour
- Build a detailed 3D finite element model in minutes
- Use automated post-processing and integrated 3D visualization

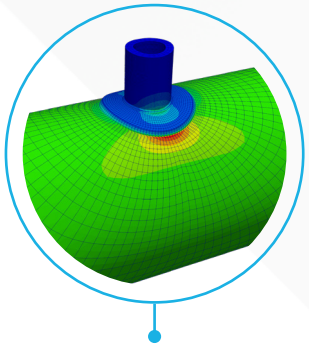
NO EXPERTISE REQUIRED

- No FEA knowledge required!
- Enter geometry, data, or dimensions to get started
- Conduct Level 3 FFS assessments with the ease of Level 2

FLEXIBLE & SCALABLE LICENSES

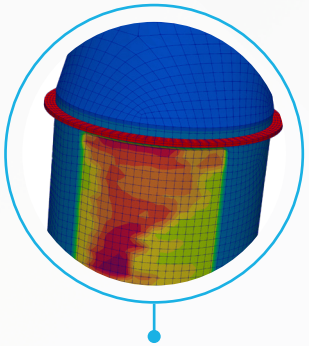
- Always have access to the latest features & functionality
- Add new licenses or modules as needed
- Get started without lengthy IT set-up

Automated FEA Tools



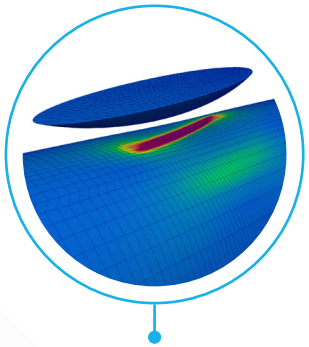
NOZZLES

Evaluate the structural integrity of nozzle connections



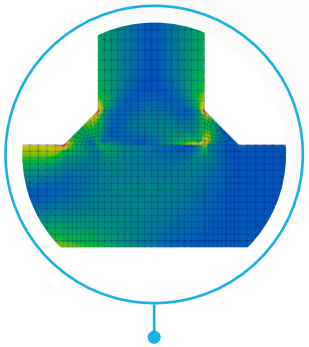
LOCAL THIN AREAS

Analyze general and local thinning



DENTS

Assess local damage & fatigue life



TANKS

Calculate stresses and strains due to settlement

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TURN INPUTS INTO INSIGHTS

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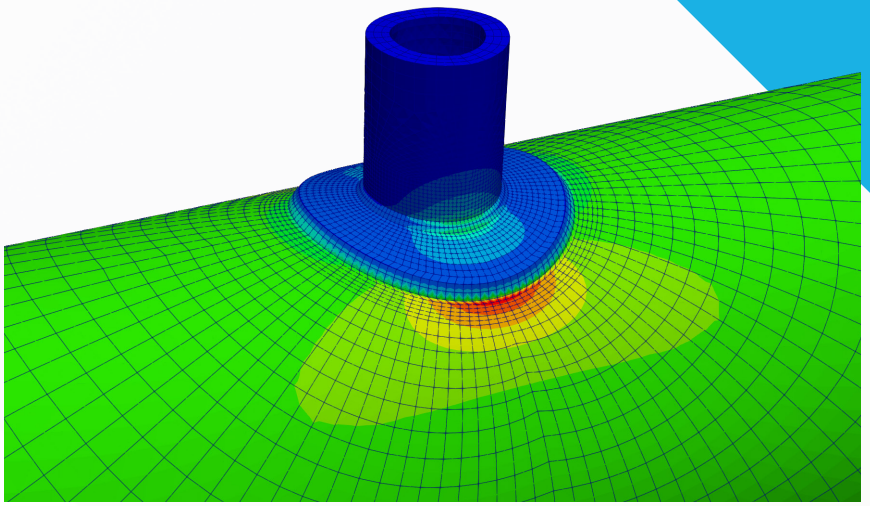
EQUITY SOFTWARE

Modernize Nozzle Designs

Fast, Accessible, and Accurate: Nozzle FEA

Nozzle connections often handle a complex combination of loads, including internal pressure, external piping forces, thermal expansion, and equipment weight.

Nozzle FEA webtool provides **fast**, **accurate**, and **code-compliant** stress analysis for nozzle-to-shell connections in pressure vessels. Using Equity's extensive knowledge in FFS and nozzle design, the webtool automates model (mesh) generation, analysis, and post-processing - ensuring compliance with ASME standards.



I

Automate model creation of complex nozzle-to-shell junctions, including cylindrical shells, heads, and conical transitions.

II

Automatically perform detailed stress analysis accounting for membrane, bending, and peak stresses (Pm, Pl, Q, F) to identify critical stress concentrations.

III

Design code-compliant nozzles to avoid plastic collapse, fatigue, or brittle fracture.

BENEFITS

SAVE TIME & MONEY

Automated model building and cloud-based analysis reduce engineering hours and eliminate the need for local FEA resources.

ENHANCE DECISION-MAKING

Perform robust high-fidelity analysis of stresses at nozzle-to-shell junctions with minimal effort.

COMPLY WITH REGULATIONS

Purpose-built and tailored for nozzle design, local stress analysis, and FFS assessments per API/ASME standards.

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