

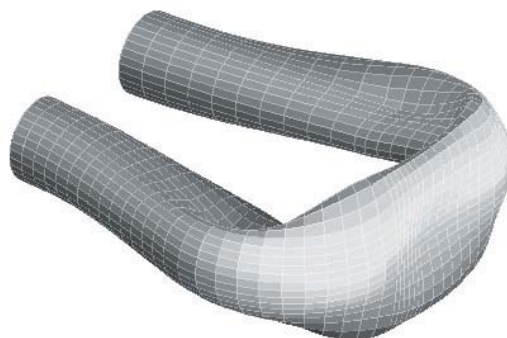
Size DOES Matter



BIGpipe Technology - Beam Elements with 18 degrees of freedom

Improved...

- SIFs for pressure
- SIFs for axial loads
- SIFs for torsional loads
- SIFs for head attachments to vessels
- SIFs for in-plane and out-plane loads



- Ovalization Between Straight & Bend Sections
- Warping
- Extensive Flexibility Nozzle Analysis
- Multi-Point Stress Calculation

Incorporate **BIGpipe Technology** Into Your Piping Method

PRG

PAULIN RESEARCH GROUP

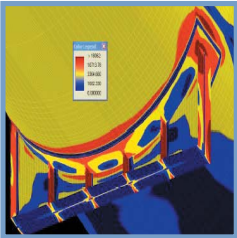
www.paulin.com

PRG Software - Forged in the Lab



FE/Pipe

FE/Pipe is a template-driven Finite Element software package, specifically designed for the needs of the piping and pressure vessel industries. FE/Pipe (as well as all of its associated modules in the PRO series) generates automatic code compliance reports - comparisons to ASME Section VIII, Division 2, Appendix 4 and 5 rules and stress categories. Build models such as intersections, flanges, saddles, low tank settlement, structural steel and MORE - all in a matter of minutes. We bring engineering to the real world.



Nozzle/PRO

Nozzle/PRO is designed to quickly and easily evaluate nozzles, saddles, pipe shoes and clips. A variety of head types are allowed including spherical, elliptical, ASME dished, cylindrical and conical. A minimum number of values must be input to generate the model. The engineer is able to include loads such as thermal, weight, operating, occasional, pressure, wind and earthquake.

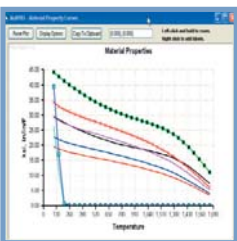
Nozzle/PRO includes the Saddle Wizard and currently has interfaces with PVElite and COMPRESS.



Axi/PRO

Axi/PRO is a powerful, easy to use axisymmetric and brick finite element modeler, for analyzing flanged joints and other axisymmetric geometries. Bolts, nuts and holes may be included in the 3d brick models so that users can see the results of hole spacing on the stress distributions. Dimensionally accurate flange models including studs and nuts are generated automatically for six major flange standards.

Analysis results include graphical representations of ASME stress intensities, resultant bolt axial loads, gasket stress distribution, overall displacements and flange separation. It allows automatic 3D models for the following code evaluations: ASME Sec VIII, Div 1, App2 - ASME BFJ - EN13445

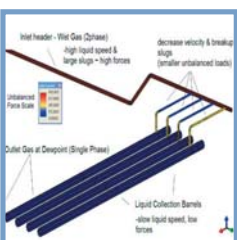


Mat/PRO

Mat/PRO is a materials database that provides: High Temperature Curves, Creep-Fatigue Interaction using output from CAESAR II or FE/Pipe, Allowable Stress Plots (ASME VIII Div 1&2)

- Yield Stress
- Elastic Modulus
- Isynchronous and Plasochronous Stress/Strain Curves
- Creep Stress
- Creep Rupture
- Creep/Fatigue Interaction

Mat/PRO NH text report evaluations include: The linear elastic tests (T-1320) A2 and A3 and Simplified inelas-



BOS Fluids

BOS Fluids models steady state and transient flow in liquid or gas carrying piping systems. The program can input neutral files from your piping program, from FE/Pipe, or the user can enter the piping topology using the standard input modus.

BOS Fluids estimates slugging conditions and has a 2-d user-definable CFD simulator for free surface flow problems such as tank sloshing or slug impacts.