



RESUME OF NILS F. JUHLIN, P.E.

SUMMARY

Registered Mechanical Engineer with 15 years of experience in industry including: design analysis, failure analysis, and manufacturing analysis. Specializes in finite element analysis of complex nonlinear problems related to buckling, large deflection, large strain, coupled heat transfer/mechanics, and nonlinear material behavior in elastomers, metals, plastics, and composites.

PROFESSIONAL EXPERIENCE

MDE Inc. – Seattle, WA (2000 to Present)

Associate Engineer

NovaComp Engineering, Inc. – Seattle, WA (1990 to Present)

President

Engineering Analyst (MDE and NovaComp Engineering). Apply finite element analysis (FEA) procedures to evaluate engineering designs, optimize engineering designs, support failure investigations, and simulate manufacturing processes. FEA procedures include stress, dynamic, and thermal analysis. Coordinate testing procedures for material characterization and develop nonlinear material models from test data. Example projects are: Creep response of large plastic containers, stress analysis of high speed (70000 + rpm) composite rotors, elastomeric seal performance for fuel cell technology, accident reconstruction of ship collisions, accident reconstruction of ladder buckling, impact of airforce payload container, full scale material characterization of HDPE Software development with application to CAD and CAE systems. Mapping of thickness distributions from super-plastic forming data to FEA plate element input data. Developed and optimized procedures for generating animation files and PowerPoint ready graphics from the multitude of available results to concise and presentable visual illustrations.

Boeing Aerospace Company – Kent, WA (1983 – 1987)

Mechanical Engineer - Thermal/Stress Analyst. Analyze space structures for structural and thermal responses using finite element and finite difference methods. Developed “in house” computer codes which would interface with existing finite element and finite difference packages.

Weyerhaeuser Company – Federal Way, WA (Summer, 1981)

Mechanical Engineer - Design and analysis. Design log conveyor system and develop computer code to predict deflection of tapered beams supported at arbitrary points.

Nils F. Juhlin, P.E.

PROFESSIONAL REGISTRATION & CERTIFICATION

Registered Mechanical Engineer, State of Washington, #30826

EDUCATION & TRAINING

BSME, Boston University – Boston, MA (cum laude, 1980)

MSME, University of Washington – Seattle, WA (1983), Thesis: "The Failure Prediction of Ceramics Exposed to Thermal Shock"

Ph.D., University of Washington – Seattle, WA (1991), Dissertation: "Modeling the Mechanical Behavior of Brittle Matrix Composites Using A Finite Element Approach"

PROFESSIONAL ASSOCIATIONS

Member - American Society of Mechanical Engineering (ASME)

PUBLICATIONS

Author and presenter of paper at MARC's 25th Annual User Conference, "FEA Modeling Techniques For Centrifugally Loaded Filament Wound Flywheels"

Presenter at University of Washington Seminars

ADDITIONAL INFORMATION

Supplier of the year award from Primex Aerospace Company, 1998

Instructor for Application of Finite Element Analysis courses