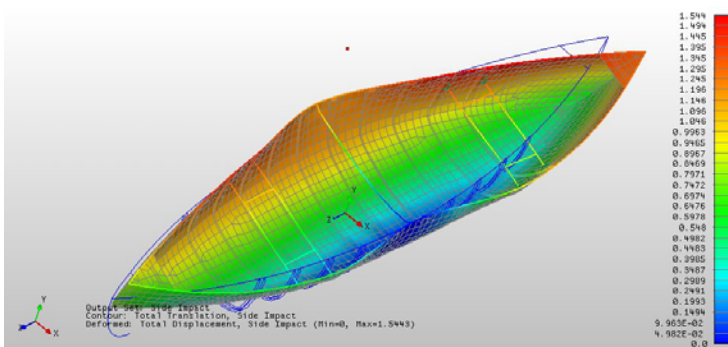
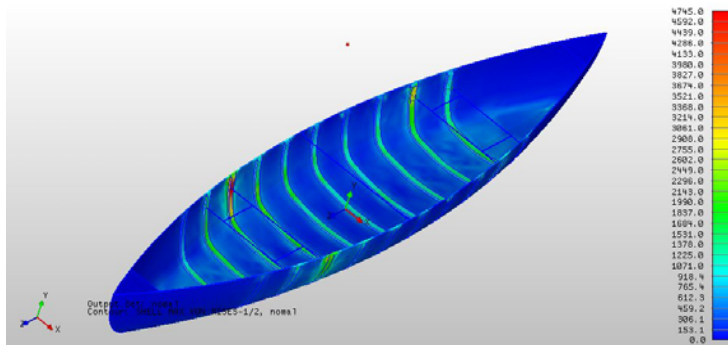
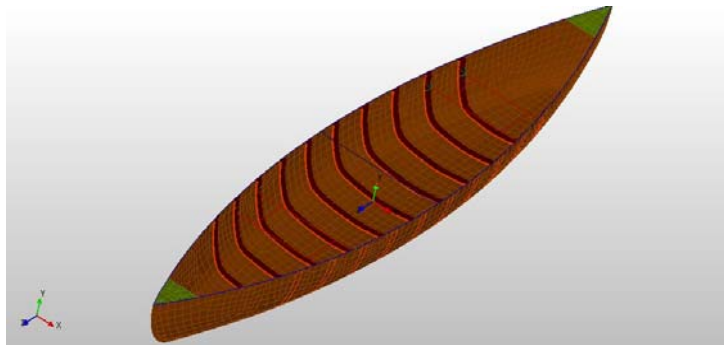


Product Design Case Study (Applied Structural Analysis – Light Weight Canoe)



Brooks Mitchell of Applied Structural Analysis, Huntsville AL, designed, constructed and tested 2 pairs of 14 foot canoes that weigh less than 30 lbs each. Brooks has 30 years of structural analysis experience, but no experience with canoe or marine engineering design! This was a personal project for his and his daughter's use.

NEi Works, Femap and NEi Nastran were selected to create the CAD model, iterate on deflections and stresses to achieve the required specific strength and stiffness.

Many iterations of material, hull thickness, gunwale moments of inertia, and rib spacing were run. That was very easy to do because when the CAD geometry was changed, NEi Works automatically updated the FEM mesh to match it. Each iteration took about 10 minutes and most of that was deciding what needed to be changed. The analyses helped reduce the number of ribs, and contributed to obtaining much lighter gunwales than most canoes. Also, the analyses showed that aircraft spruce was much better, weight-wise, than the traditional materials.

Brooks finished the project in 3 ½ months, after starting with a blank computer screen, and no experience with canoe or marine design engineering.

NEi Software, Inc. is aggressively focused on commitment to the customer. Detailed documentation, customized on-site training, and comprehensive technical support ensures that you will see immediate return on your investment.

For more information about our company or our products, please contact:

Headquarters:

NEi Software, Inc.

5555 Garden Grove Blvd., Suite 300

Westminster, CA 92683-1886

USA

Phone: +1.714.899.1220

Fax: +1.714.899.1369

Email: info@neisoftware.com

Website: www.NEiSoftware.com

Europe:

NEi Software EMEA Office

The Old Barrel Store

Draymans Lane, Marlow

Buckinghamshire, SL7 2FF

United Kingdom

Phone: +44.0.1628.400.645

Fax: +44.0.1628.891.701

E-mail: emea@neisoftware.com

Website: www.NEiSoftware.com/emea

Asia:

NEi Software Asia Office

Shinjuku Park Tower

N30th Floor 3-7-1 Nishi-Shinjuku

Shinjuku-ku, Tokyo, 163-1030

Japan

Phone: +81.03.5326.3062

Fax: +81.03.5326.3001

E-mail: asia@neisoftware.com



NEi Nastran *for Windows*
From NEi Software, Inc.