

## Product Design Case Study (FormaShape, Canada – Superbowl)

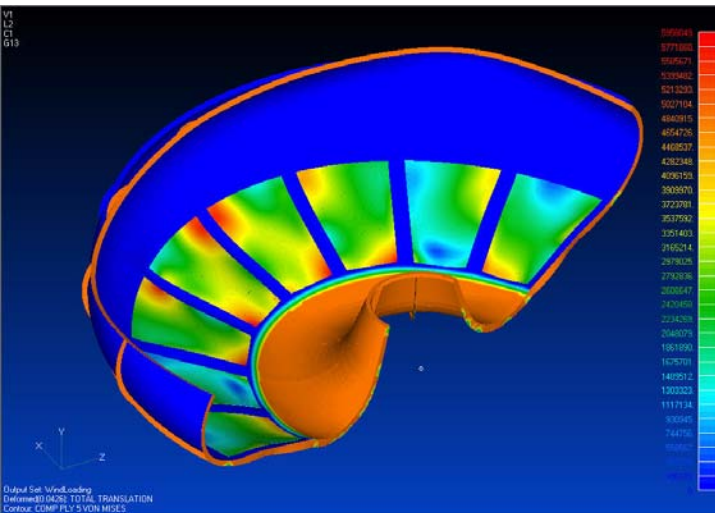


FormaShape ([www.formashape.com](http://www.formashape.com)) of Kelowna, British Columbia, Canada, a division of Whitewater Composites Ltd., is one of North America's largest manufacturers of composite fiberglass and fiber-reinforced plastic (FRP). With parent company, Whitewater West Industries, FormaShape is the world's largest manufacturer of fiberglass water park attractions.

FormaShape used NEi Nastran to model the assembly of several FRP waterslide parts for a product called the Superbowl for companies such as SpaWorld (Japan), Chula Vista, Seaworld, and Triple Play. First, a single part was modeled and tested in-house to verify the model. Then half of an assembly was modeled and static analyses were performed. The analyses results satisfied the Japanese requirements for strength verification without having to conduct full-scale testing. In addition, the engineers realized that if it was not for the capability of these tools, they would have severely over-designed these parts in recent past history.

With the same product, a single client wanted a roof placed over the bowl. Through symmetry, FormaShape engineers took advantage of the existing parts to be used as the roof. Their suspicions were that they would need to beef up the strength of these parts. However, the FEA analysis proved that the parts were strong enough as they were.

The NEi Nastran package was chosen for a number of reasons: first, because of its composites capabilities; second, because of its long history and tools that allow great control over FEA models; third, because of NEi Software's superb customer service.



**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.

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