



Industrial Castor Design

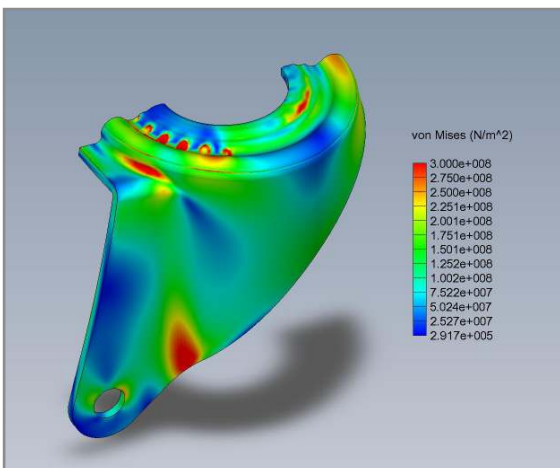
Our client was looking to expand into a new market, requiring their product to withstand an extreme new environment. They were experiencing brittle failure at the rear of the castor fork under the extreme new test conditions. We were able to significantly reduce both the time and cost required to solve the problem through computer simulation technology.

Real test conditions

Using calculated impact loads a set of test conditions were constructed and applied to a 3D CAD model of the failing fork. Steel suppliers quoted material properties were also added and the loading condition solved.

See results on a virtual model

The software then produces both graphical and numerical results, for stress, strain and material displacement, providing you with analysis tools to identify stress concentrators, failure points, excess material, etc. These results were then calibrated to the failed test components.

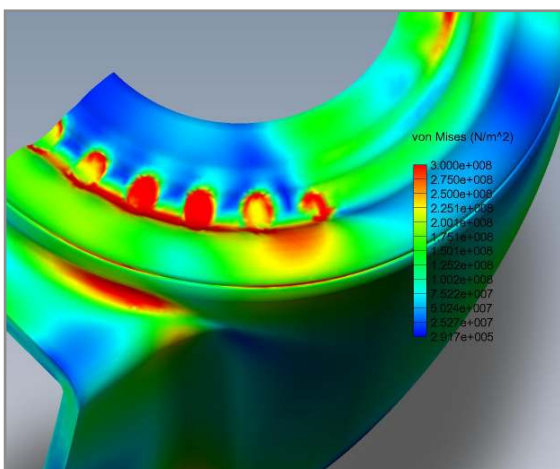


Test multiple design solutions quickly

New design ideas were needed to increase part strength, and each of these were modeled and quickly retested and analyzed. Designers and engineers then used the learning from each result to further refine the design.

Optimize the design for production

After settling on the best design concept the CAD model was optimized to remove excess material and aid the manufacturing process, and of course the simulation was quickly rerun to ensure the basic design concept had not been compromised.



Real world results

Using FEA reduced the need for expensive physical testing and provided a rapid solution. It gave our client the confidence to quickly proceed to the manufacture of preproduction samples with an innovative design, and a robust design solution.

For more information please contact us:
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