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Endurica targets tire and rubber product developers with new software release

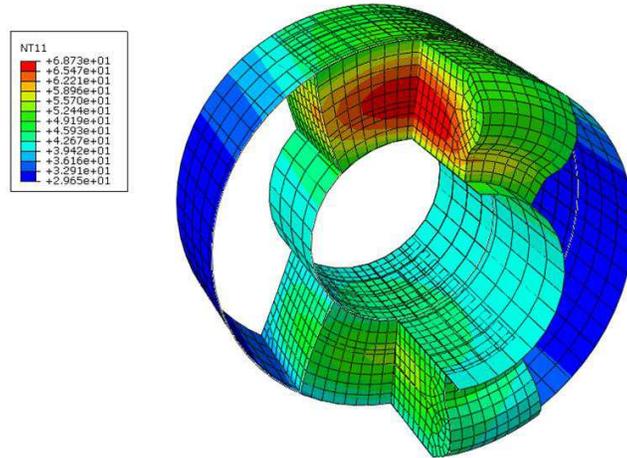
CAE software adds features for the analysis of rolling structures, self-heating, wrinkling and cavitation

FINDLAY, OHIO, 31 August 2015. Endurica LLC announced the release of version 2.32 of its fatigue life analysis software Endurica CL. Endurica CL is a computer simulation that can model the development of damage in an elastomeric part operating under complex service conditions. The release includes new features for calculating self-heating, for analyzing rolling structures (e.g., tires and rubber rollers), and for diagnosing cavitation and wrinkling conditions that might occur during loading cycles. The new features are provided at no additional cost under the existing license.

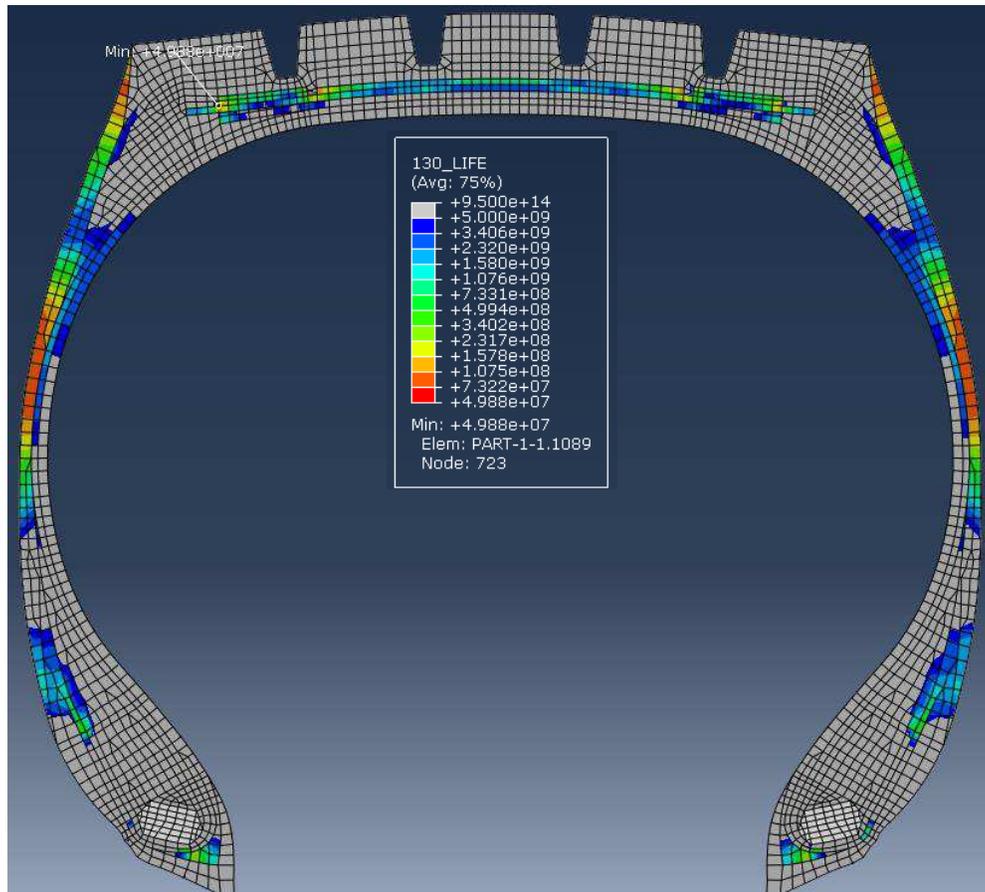
The new features enhance the software's already extensive library of elastomer-specialized analysis capabilities. Starting from results computed in a standard Finite Element Analysis of the part in operation, Endurica CL computes the number of repeats of the simulated operation that can be endured before cracks develop. The calculation uses Critical Plane Analysis for accurately computing the effects of multiple simultaneous load inputs, Rainflow Counting for the effects of variable amplitude loading, and nonlinear material laws that effectively capture a range of elastomer behaviors (hyperelasticity, cyclic stress softening, strain crystallization, temperature dependence, ozone attack, etc.). Endurica CL accounts for the effects of finite straining and crack closure under compression. The material properties for the analysis are obtained from simple-to-use crack growth rate experiments.

Endurica LLC founder Dr. William V. Mars commented that "our fatigue analysis software offers powerful options to companies that develop elastomer components with a durability requirement. Now you can quickly and inexpensively understand how your part's durability in service is going to be impacted by your team's design decisions. The new features in version 2.32 strengthen the value that our solutions bring to these problems by providing added usability and diagnostic power. The new features also open the door to further applications, most notably in tires."

About Endurica LLC. Endurica LLC provides pre-prototype solutions for developers seeking durability in elastomer applications. Endurica is focused on durability and elastomers, and has developed the world's first numerical fatigue life solver for elastomers. Our solver is used to predict fatigue life based on the results of Finite Element Analysis. Our solutions include characterization, software and training for engineers and analysts. The company was founded in 2008. (www.endurica.com)



Colored contours showing operating temperature inside a bushing operating under dynamic load, computed using Endurica CL's self-heating capabilities.



Cross section of a truck tire, colored according to the computed fatigue life for the case of straight-ahead rolling under a modest overload condition. Results were computed using Endurica CL's new feature for analysis of rolling structures.