

## Tenneco expands Clevite's testing capabilities

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MILAN, Ohio—Automotive supplier Tenneco Inc. is investing in material testing software to improve speed and accuracy in finding the right product for an application, according to Steve Pohlman, Tenneco vice president and general manager of global elastomers.

Tenneco's Clevite Elastomers brand licenses Endurica LLC's software and is investing in its material testing capabilities at its Milan engineering facility. Endurica's software uses critical plane analysis to give accurate predictions of performance under complex load cases. It also includes testing methods and instrumentation that increases the capacity to characterize rubber fatigue behavior in simulation-compatible ways, Pohlman said.

"We have made this investment in the software mainly because of the demand our customers are putting on us for the analytical analysis of elastomer fatigue characteristics," Pohlman said. "What they want to understand is, how do you make sure that you are able to have full confidence in and understand the durability of, that product."

The amount of the investment has not been disclosed. Tenneco's Milan engineering facility for Clevite Elastomers-brand goods will serve as the hub for the new technology and investment, as the "epicenter for our global engineering group," Pohlman said. About 90 people work at that facility, and while some are being reassigned to the Endurica portion of the facility, no new jobs are being added currently.

"This allows us to stay at the forefront as a facility," Pohlman said. "You may not be adding 50 people, but at the end of the day, with the business we can gain, you're going to save and continue to grow jobs based on that as the enabler. We're going to grow our business, which will mean more engineering opportunities."

### Expanding testing capabilities

Tenneco worked with Endurica on the software, partnering it with equipment acquired in Tenneco's Milan lab to broaden the range of material characterization testing, increasing its testing capabilities for rubber-to-metal and elastomeric products, especially for automotive and commercial truck off-highway applications.

"If we went outside (our lab) to have it done, it's not going to be as quick or potentially as reliable as doing it ourselves," Pohlman said. "We felt developing this in-house, this testing capability, is going to help us be more efficient and timely. We're making the investment to make sure when we go to our customer ... we're going to know this is the right product that will work for your application."

The new material testing capabilities will speed up the testing process, shortening the amount of time before finding product that fits the application best, which is a growing concern for automotive manufacturers, Pohlman said.

"In the automotive industry, from design to launch is becoming more and more of a time crunch," he said.

"This is what the Endurica software does in conjunction with our testing. It allows us to cut that timing down, and allows our customer base—the automotive, heavy truck and off-highway engineering staffs—to do their job and not worry about if they have a durability problem."

Ordinarily, Clevite would formulate a rubber compound for a customer, and the customer would take that compound and test it with the product. Then, if the compound failed or didn't fit the specifications, the customer would go back to Clevite and begin the process over again. The investment in testing allows the team to point to methodology and results from the Endurica software to choose a product that they have confidence will pass durability requirements, Pohlman said.

"You still do durability testing, but you're far more likely to feel like 'This is going to work and we're not doing trial

and error.' That's the best part," he said.

The expansion in testing capabilities also means cutting down the time spent reformulating compounds for the Clevite team, Pohlman said.

"It allows us to go on to another piece of business and utilize our engineering resources in the most optimal way," he said.

Tenneco already has carved out space in the Milan facility just for testing, and brought in customers and engineers for feedback on what features would be helpful for future development. The investment is a large part of the company's strategy, supporting a major growth mode for the Clevite brand. Though the testing capabilities and Endurica software is available now, there will be more expansion in the future, likely through the first quarter of 2018, Pohlman said.

"This is the enabler to get us where we need to go globally, and the Milan engineering facility is a big part of that," he said. "We are continuing to make some final investments to increase our capa-



Pohlman



Hydroelastic body mount.

bilities, and we'll increase our capacity with future investments."

Tenneco engineers presented details of their durability validation program at last year's fe-safe™ user group meeting. Besides the Milan engineering headquarters, the Clevite brand has two manufacturing facilities in the U.S., in Angola, Ind., and Napoleon, Ohio. It also has a manufacturing facility in Reynosa, Mexico, and manufacturing, engineering and sales facilities in Cotia, Brazil, and Suzhou, China.