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Materials Testing Needs***

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## Wheland Foundry saves by retrofitting SATEC machine

Wheland Foundry of Warrenton, Georgia, is constantly on a quest to produce the highest quality brake drum castings at the lowest cost. The quality comes, in part, from a rigorous tensile testing program. The cost containment comes from constant vigilance of the price of materials and equipment. These two considerations came together when the digital controller on Wheland's SATEC tensile testing frame failed. Since SATEC had been bought out by INSTRON, Chris Taylor, Wheland's tooling and quality manager, contacted INSTRON to arrange the repair. They determined that a key computer chip in the controller was defective. Since the chip was no longer available, a costly full retrofit of the machine was required. This sent Taylor on a hunt to find a less expensive alternative to return his testing machine to operation. He found ADMET, and was able to retrofit the machine for about a third of the cost of the quoted price from INSTRON.

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Wheland Foundry is housed in a 135,000 sq. ft. factory in Warrenton, Georgia. It is owned by an investment group that includes former managers of the company. Wheland produces heavy duty brake drums weighing from 140 to 150 lbs. that are used on truck semi trailers.

The grey iron casting process demands high quality and consistency. Wheland maintains its quality by testing an iron sample for every grade and every pattern that it runs. It tests to meet tensile specifications and Brinell hardness.

The testing machine is a servo controlled SATEC 60,000 lb. frame that was purchased in 1995. The frame pulls test bars that are produced along with the brake castings.

Explained Chris Taylor, Wheland tooling and quality manager, "We pour cast iron bars into a mold from the same pour as our production run. Then we turn them to one-half or three-quarter inch diameter rods, depending on the test. Finally, we mount the bar in the frame and test it

to failure. Each test bar must exceed a tensile strength of 35,000 psi.

"We have to perform tensile and hardness tests for each batch to certify to our customers that we exceed the specified minimum values," continued Taylor.

The frame worked fine until a computer chip in the controller failed. Taylor contacted INSTRON, which had purchased SATEC. He was disappointed to hear that the chip was no longer supported.

Consequently, what he had hoped would be a quick fix turned into a full retrofit. "I could have found a replacement chip but there was no guarantee that it would work," commented Taylor. "We might be stuck with a broken machine in a few months."

### **Searching for a cost-effective retrofit**

The retrofit recommended by INSTRON came in at \$26,000 – well above what Taylor was willing to pay. A second quote from the company was in the \$13,000 to \$14,000 range – still above the budget.

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## **SOLUTION OVERVIEW**

**Industry:** Truck semi trailer brake drums  
**ADMET Product:** Retrofit using the Precise Digital Controller

**Application:** Tensile and Brinell testing  
**Customer:** Wheland Foundry

Taylor turned to the Internet and talked with his calibrator to find alternatives. It was then that he heard about ADMET, which, in addition to providing new equipment, specializes in upgrading equipment from other manufacturers.

He contacted ADMET and received a call from Bobby Boyette, a representative with Wade H. Boggs, Inc. of Savannah, Georgia. Boyette was very responsive and came to the plant to look at the situation. Soon, Taylor received a proposal of \$8,500 from ADMET for the retrofit, including on-site installation and training.

### **Retrofit in less than three weeks**

From there, things happened quickly. Once the quote was approved, ADMET's field service engineer took over. Since the SATEC frame was already servo equipped, the ADMET retrofit could use the existing hydraulic power unit.

Based on Wheland's needs, ADMET specified its Precise Digital Controller. The Precise is a self-contained unit that ADMET includes both in new equipment and for retrofits as a lower cost alternative to computer/Windows-based systems. It works with both manual and servo-controlled tension and compression testing machines.

It was ideal for Taylor, since Wheland conducts a limited number of tests and did not need the sophistication, or expense, of a computer-based system.

The Precise Digital Controller is able to control and report on all of the necessary tests and is even able to report results to a remote computer for inclusion in spreadsheets or data bases. It is designed to work with virtually any system from any manufacturer.

"Since all we run is three to four tests, we needed a simple solution that was easy to use

and easy to learn. The Precise Digital Controller was appropriate for our needs," commented Taylor.

The retrofit went smoothly and took about a day. Although ADMET was able to use the machine's components, the service engineer added a bypass to relieve pressure from the machine when the E-stop is pressed.

Once the machine was set up and tested, the ADMET representative programmed in the test procedures.

By ten the next morning, ADMET was ready to train the operators. Said Taylor, "The training came down to 'You turn on the screen button and then you call the program and then push a button to go.' It was easier than what the operators were used to and they were very excited."

Before leaving, the field service engineer gave Taylor a CD that had all of the data transfer capabilities, manuals and other user information. He then told Taylor that he'd never have to use it. The service engineer said, "If you have a problem, call this number," and he wrote the number on the machine. "Call anytime, day or night, and we'll tell you exactly what to do." Both Taylor and his staff were excited about the level of support promised by ADMET.

That was it. The whole process, from accepting the bid to completing the installation, took only a few weeks.

Taylor jokes, "Bobby called to see how things were going and the instrument was already installed. ADMET had already been here and gone. I was happy with the quote and I was just as happy with the service."

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### ***For More Information***

For more information about ADMET products or services, please call us at 800-667-3220 in the US or Canada, email [sales@admet.com](mailto:sales@admet.com) or visit our Web site at <http://www.admet.com>.

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