

ATS Predictive Maintenance Testing Reveals Imminent Transformer Failure, Saving Manufacturer \$43,000

Customer Challenge

For nearly 90 years, this building products manufacturer has been making high temperature insulation products at its plant in Georgia. The 110-acre, 1 million square-foot facility makes insulating firebricks and monolithics, dense refractory shapes, insulating fiber blankets, and converted fiber products that withstand temperatures reaching a blistering 3250°F.

These extreme conditions can take a high toll on fabrication equipment. For this reason, the company retains Advanced Technology Services (ATS) to handle its industrial maintenance needs. The ATS team of technicians are highly trained in predictive maintenance—a technology-based form of maintenance that uses instruments to measure the impact of vibration, heat, moisture, dust, leaks, oil breakdown, and other operating threats. By detecting changes in conditions, impending part failures can be addressed before they affect production.

ATS Solution

ATS technicians and engineers routinely measure every piece of equipment to ensure it's running within performance norms. "I was using Infrared Thermography to inspect high-voltage transformers on several of the production lines," explained the ATS reliability engineer. "The transformers are inside metal cages and can't be touched directly. As I pointed the IT instrument, most were releasing a normal amount of heat—about 116°F. One, however, was radiating over 200°F."

The outlying transformer powered an entire blown fiber production line. Electricity for a furnace, furnace deck, motors, conveyor systems, and drive lines all flowed through this one component. "The high heat signature was a red flag that something was wrong," the engineer stated. "If that transformer failed, an entire portion of the factory would have come to a standstill."

The ATS team immediately notified plant management of the situation and the facility's electrical equipment vendor was contacted.

AT A GLANCE

- Large, multi-line insulation products facility
- ATS predictive maintenance services deployed
- Infrared thermography reveals abnormality
- Failure avoided, proactive replacement of transformer
- Resulted in 12 hours of avoided downtime and \$43K savings in avoided cost

Bottom-Line Success

Subsequent inspection showed that the transformer had suffered a loss in its mineral oil cooling system. Due to the lack of oil, the transformer windings had degraded to the point of meltdown. Catastrophic failure would have shut down the line for at least twelve hours.

Based on a cost avoidance analysis, proactive replacement of the transformer saved the manufacturer an estimated \$43,000. The work was done during a scheduled maintenance break and resulted in no unplanned downtime or material loss for the company.

"When we began our relationship with ATS, our maintenance was entirely reactive. Today we have made great strides in becoming proactive," stated the Regional Operations Manager. "Our diagnostic tools, which have allowed us to identify and correct many issues before extended downtime is incurred, are key building blocks for best-in-class maintenance."

 **12 Hours**
Avoided Downtime

 **\$43,000**
Avoided Cost