

Vegas Fastener Manufacturing Forges Quality Connection with Thermo Scientific Niton XRF Analyzers

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– Vic Scheuplein, Quality Manager, Vegas Fastener Manufacturing



Specialty fasteners



"Quality Fasteners On Time"



Precision custom manufacturing

Thermo Scientific Niton XL3t Analyzer Benefits

- Fast, comprehensive testing
- Real-time traceable results
- Lab-quality composition analysis
- Fast, simple report and certificate generation
- Immediate identification of metal alloy grade

Vegas Fastener Manufacturing

With a manufacturing team averaging more than 30 years' experience in the specialty fastener business, Las Vegas, Nevada-based Vegas Fastener Manufacturing (VFM) specializes in the hot forging of high-temperature and corrosion-resistant alloys for the manufacture of bolts, nuts, screws, sockets, and studs. Established in November 1998 and having 150 employees, Vegas Fastener serves industries worldwide, including aerospace, power generation, military, marine, construction, transportation, mining, environmental, bulk paper, food processing, and petrochemical applications.

The Challenge

The specialty fasteners that VFM manufactures are used in many critical applications, dictating that the composition of the raw materials they receive must be exactly what they ordered and that the products they ship meet their customers' precise material grade requirements. That responsibility, in addition to more customers mandating positive material identification (PMI) testing, influenced their need for an accurate, reliable instrument they could incorporate into their quality management process.

Results

Once Vegas Fastener Manufacturing started using the handheld Thermo Scientific Niton x-ray fluorescence (XRF) analyzer, they could confidently verify alloy grades, fulfill their customers' requirements for PMI testing, stay ahead of the competition, and add a powerful, yet easy-to-use tool to their quality program arsenal.

The Nuts and Bolts of Customer Satisfaction

When your stated mission is "Quality Fasteners On Time," you better make sure that you can meet all the challenges that the mission entails – the right raw materials, the right tools, the right quality programs, and the right people. Certified to ISO 9001: 2008, Vegas Fastener Manufacturing has been successfully delivering on that goal since its inception, creating a name synonymous with excellence in the process.

"We specialize in high strength and exotic materials... threaded fasteners: nuts, bolts, and screws," says Vic Scheuplein, Vegas Fastener's quality manager. "Our fasteners are used in critical, often life-and-death applications, and we need to ensure that the incoming raw material and the resulting outgoing product meet the expected composition analysis. It's a double-check system."

VFM's Quality Management System (QMS) includes product inspection throughout its manufacturing process as well as customer-required first article inspection. In addition to PMI composition analysis with the XRF analyzer, other in-house testing includes tensile strength, Charpy impact, magnetic particle and liquid penetrant, and numerous other testing characteristics. All QMS processes are monitored and continuously improved to meet and exceed both the customer's and regulatory requirements.



Material verification using the Niton XL3t analyzer

Joining Together with Handheld XRF

Dave McDonnell, VFM's director of marketing, describes the verification process they used before discovering handheld XRF. "We used a Fuess spectrometer. You'd take a known piece of material and put it on one spot, then you'd take a piece of 'mystery' material and put it on the other spot, then you would arc it. Next you would try to match the arcs. It was very archaic."

McDonnell continues, "We found out about [Thermo Scientific] Niton XRF analyzers from our scrap dealer. Often, we were sending him a mixed lot of scrap material, and he would use the analyzer to separate it. We had a Thermo Scientific Niton analyzer representative demonstrate it for us, and we bought one, and a couple of years later, we bought two more. We really didn't look around at any others... the scrap dealer gave the analyzer such a rave rating that we just grabbed them."

VFM bought a Thermo Scientific Niton XLt 898 alloy analyzer in July 2006, followed by the purchase of two Niton® XL3t alloy analyzers in May 2008. Alloy grade and quality control testing with Niton XL3t XRF analyzers typically take 1 to 2 seconds, with lab-quality elemental analysis requiring only a few seconds longer to obtain more precise results – helping to ensure that critical-use alloy materials won't be subject to premature or catastrophic failure.

Ease of Use, Greater Confidence

Within the 100,000 square foot facility, VFM employees use the analyzer to test bar stock material from more than 100 grades of stainless steel and copper, brass, and bronze, to high-temperature and corrosion-resistant alloys such as titanium, Monel®, Hastelloy®, and Inconel®.

Devin Christian, lead PMI technician for VFM, discusses the analyzer, "We needed to keep up with our customer requirements and stay ahead of our competition, so we bought the XRF analyzer. The software is very easy to use, and the 'gun' has a wide range of capabilities to help us in verifying any raw material that we have coming in. We download the readings on a daily basis for our records to verify the job is the correct material."

Scheuplein agrees, "It covers our needs, and there is the ease of use of the software that Devin mentions. That was really the driver, along with the cost which was competitive."

The result? "Customers have a greater confidence in our manufacturing process, which many have come in and audited. The Niton XL3t alloy analyzer is a critical part of that. Lately, it's become a mandatory requirement that we perform PMI testing to verify our material 'certs,' giving customers an even greater degree of confidence that they're getting the products made out of the materials that they require," notes Scheuplein.

Mission Accomplished

Equipped with the latest technology and equipment to provide customers with accurate and precise results, Vegas Fastener Manufacturing achieves its mission and then some: providing cost-effective solutions for specialty fastener applications, never promising more than they can deliver, but always guaranteeing quality fasteners on time.

"The analyzer is very reliable, very user friendly, and it's so day-to-day that we don't really even think about it as a special piece of equipment anymore... that's how good the device is," says Scheuplein, with Christian adding, "It's become part of our company."

For more information, contact your local Thermo Scientific Niton Analyzer representative or visit our website at www.thermoscientific.com/niton.