



LABORATORY TESTING INC.

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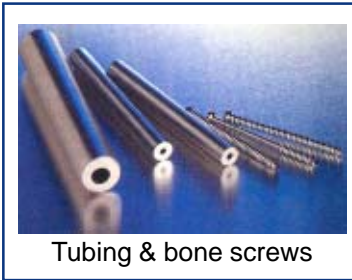
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Assuring Quality in Medical Materials

As a result of advancements in materials technology in the medical implant and instrumentation industry, LTI has become a major supplier of testing services for leading manufacturers of these devices. Manufacturers have become acutely aware of the need for quality products used in human implant materials to assure performance, durability and long-term reliability. Through partnering with the manufacturers, LTI has become an intricate part of the quality programs of these suppliers providing nondestructive and destructive testing services.

Various corrosion resistant materials are tested from the raw materials stage up to the final cleaning and packaging stages. An example of the product form we exam is the small diameter, heavy wall tubing used in the manufacturing of bone screws. Typical uses of the bone screws are joint replacement and spinal column surgeries. Chemical, physical and corrosion resistant attributes are verified on representative samples using standard destructive test methods. Nondestructive test methods, such as liquid penetrant and immersion ultrasonics are also typically used.



Tubing & bone screws

The challenge for LTI was to develop an ultrasonic inspection procedure that would adequately and reliably detect longitudinal and transverse oriented defects as small as .004 inch in depth in heavy wall tubing, with outside diameter to inside diameter ratios typically greater than 2.0 to 7.0. Using reference standards containing EDM notches from the various sized materials, LTI was able to confirm both the detectability and reliability of the ultrasonic inspection. Further confirmation was achieved during production testing by sectioning any metallographic examination of the areas containing indications exceeding the ultrasonic reference level. Ultrasonics are also used to verify the wall thickness and run-out (TIR) of the materials, which is a critical characteristic of the material prior to threading both the inside and outside diameters. Depending on the material type, liquid penetrant examinations are performed on the tubing in the as-drawn condition and in the final machined stage by the manufacturer to further detect possible discontinuities.

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LAB NEWS

News from the Quality Department

In February of this year, Don DiFilippo became our new Quality Assurance Manager. He brings over 30 years of quality experience to the position as a previous employee of companies such as General Electric and Gage Lab. Former Q.A. Manager,



Don DiFilippo

Arnie Horoff, has moved into a new position as Q. A. Specialist, where he works with Don on audits and quality projects.

Laboratory Testing's Quality System Program Manual is currently being updated. In place of the spiral bound Quality System Program Manual that we previously mailed to customers upon request, all future copies of the Manual will be sent on a CD-Rom.

Quality is a top priority at our facility, which is evident in our policies and procedures. To ensure that we continually meet our own stringent standards, as well as those of our customers and accrediting associations, LTI follows documented procedures for material handling, performing each type of test and calibration, and equipment maintenance and calibration. Don and Arnie are available to assist you with questions on our accreditations and quality program.

Show Date

Power-Gen International is being held in Orlando, FL this year between 11/30 and 12/2. Please stop by to see us at Booth #3570.

Get Exactly What You Need

To ensure that your orders are processed correctly and quickly, we need all pertinent information before a job begins. Please include all details about your job on your purchase order, which can be faxed in advance or enclosed with the items coming to LTI for services.

- ◆ Exact testing, calibration or machining service requested. Including the Test Code from our price list is helpful.
- ◆ Quantity of each test being performed.
- ◆ Specifications or standards to follow for testing.

- ◆ Number of pieces sent for testing.
- ◆ Grade or class of gages being calibrated.
- ◆ Include calibration frequency for your equipment, or the default is 12 months.
- ◆ Turnaround required. If RUSH service is needed, please specify "same day" or "24-hour service".
- ◆ How and where your materials, specimens or calibrated items should be returned. If you do not need test samples back, please let us know.
- ◆ Billing address and contact name for your order.

Top Quality Service, a Priority for Shipping & Receiving



Front: Gabe Abraham (driver), Joe Brown (Material handler), Ron Popowitz (driver). Back: Josh Hood (driver), Bill Beeman (Material handler), Tom Scherer (supervisor).

Timely turnaround, careful material handling, and customer convenience are all top on the list of priorities for our Shipping & Receiving Department. The first and last contact LTI has with each customer's order is generally through this staff of six - three drivers and three material handlers. Each day, the drivers pick up and deliver orders within a 60-mile radius of our facility, using our two vans, a pick-up truck and a flat-bed truck, when needed. The material handlers process all work brought in by the drivers and the many carriers who deliver to our building each day. They also carefully package all orders for the return trip to the customer and coordinate shipments with the drivers, carriers and postal service. To schedule pick-up or delivery service within 60 miles of LTI, please contact Tom Scherer at extension 130 or by e-mail at tscherer@labtesting.com.

Metrology Capabilities Continue to Grow

Dimensional Inspection and Measurement

Our calibration division, LTI Metrology, now offers customers a new range of services available with a contact CMM. We'll meet your requirements in reverse engineering, inspection of parts with special features and measurement of large items up to 18" x 20" x 16", the measuring capacity of our new CMM.



Brown & Sharpe CMM

In addition, our video CMM Measuring Microscope has zoom magnification from 11.8X to 122X and provides a noncontact method of measuring items up to 6" x 6" x 6". Measurements of machined products, parts and fasteners are also certified by our experienced technicians using calipers, micrometers, height gages and other instruments.

Scope of A2LA Accreditation

Mechanical calibration of torque wrenches has been added to LTI's scope of accreditation by the American Association for Laboratory Accreditation (A2LA). The accreditation covers both the calibration of indicator and click-type torque wrenches up to 600 ft. lbs.

Beginning in 2001, A2LA granted accreditation to the laboratory to perform dimensional calibrations on a wide range of equipment including gage blocks, length standards, calipers, outside micrometers, indicators, pin gages, plugs, thread wires and solid rings. To meet the needs of our metrology customers, we plan to continue expanding the scope of our A2LA accreditation over the next few years.

For more information on our accreditations, please contact the Quality Department at 800-219-9095. To place an order for calibration, field service, instrument repair or the purchase of a new instrument, call Customer Service at the same toll-free number.

Testing Terminology

The field of testing has a huge vocabulary describing the techniques and processes used to obtain test results on materials. We will include terminology used in testing at LTI in this and future issues of *LabNews*. The following definitions describe terms commonly used in **analytical chemistry** and reference ASTM E 135.

Reference Material is a material or substance that has one or more sufficiently homogeneous and well established property values so that it may be used to calibrate an analytical instrument, to assess a measurement method, or to assign values to test samples.

Certified Reference Material has had its composition certified by a recognized standardizing agency, such as the National Institute of Standards and Technology.

Wet Analytical Chemistry involves the analysis of samples without the use of instrumented methods (i.e. Atomic Absorption Spectrometry (AAA), Optical Emission

Spectrometry (OES) and Inductively-Coupled Plasma Atomic Emissions Spectroscopy (ICP)}. In the area of quantitative elemental analysis, the methods include gravimetry, in which a chemical species is weighed; titrimetry, which involves volume measurement of a liquid; and a number of separation techniques that require a variety of laboratory procedures. Wet analytical methods are used to determine quantitative elemental composition, to umpire or referee check on quantitative instrumental methods, to analyze samples too small for instrumental methods, to determine coating weights and/or to determine oxidation states.



**LABORATORY
TESTING INC.**

1982 • 2002

Celebrating 20 Years



We've Reached a Milestone

This year, we are celebrating the **20th Anniversary** of Laboratory Testing Inc. We are grateful to all of our customers who have helped make this possible.

Your relationship is very important to us and your satisfaction is always a priority. Please let us know if you ever have any questions or concerns.

Contact LTI

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