

Recent Projects at Engel Metallurgical

- ★ Dimensional inspection of stainless steel fittings
- ★ Metallographic evaluation of circuit board characteristics
- ★ Load testing of trailer wheel spindle design
- ★ Failure mode and load testing of trailer safety chains
- ★ Borescope quality assurance inspections of stainless steel pipe welds
- ★ Microhardness testing of springs used in medical devices
- ★ Grain size measurements of 0.008 inch diameter stainless steel wire used in medical implants
- ★ Weld qualification testing

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IN

In This Issue

Choosing an Accredited Laboratory Can Be Very Good for You.

Let Engel Metallurgical Make Your Life Easier.

Accreditation Opens Doors to the World.

Recent Projects at Engel Metallurgical

Consulting Metallurgical Engineers

sight

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Engel Metallurgical News

How Do You Make a Good Thing Even Better?

If You're Engel Metallurgical, You Become ISO 17025 Accredited!

Ever since 1983, when Engel Metallurgical Ltd. was founded, quality has been of utmost importance. Les Engel brought years of expertise and an enthusiasm for quality to his new company, and hired only those who shared that same passion for quality and detail. It paid off, and customers in the manufacturing, legal, and insurance industries have turned to Engel Metallurgical for expert consulting and testing for two decades now.

So how could Les raise the bar to the next level? The answer was clear: Engel Metallurgical would become ISO 17025 accredited. This would be a logical extension of the Engel Metallurgical operating philosophy that quality and detail are paramount.

It is now official. Engel Metallurgical has achieved ISO/IEC 17025 accreditation from the American Association for Laboratory Accreditation (A2LA). This means the testing Engel Metallurgical performs for customers now carries even greater benefits.

Test results from an independent accredited laboratory are seen as valid and carry more credibility, which can have an enormous impact on legal and insurance cases, as when failure analysis is done to determine liability. Engel Metallurgical has always been proficient at this and, now with ISO accreditation, our findings will carry even more weight in litigation situations.

Using an accredited lab can lower manufacturing costs by eliminating the need for redundant testing, or by ensuring that purchases from suppliers aren't defective, minimizing risk. In the current economy, Engel Metallurgical's ability to help lower manufacturing costs and minimize risk can only be seen as great advantages to any manufacturer.

Test results from an accredited lab receive international acceptance (through reciprocal international agreements), reducing barriers to overseas markets and facilitating trade and economic growth. Engel Metallurgical can now help companies leapfrog the technical hurdles that other countries impose.

Accredited labs help manufacturers improve quality and assure competency and high levels of performance. Engel Metallurgical's focus on quality and exacting standards has helped countless manufacturers improve their products. With ISO accreditation, Engel Metallurgical can now assure customers that test measurements are traceable to internationally-recognized standards.

So what is this wonderful thing known as accreditation?

ISO/IEC* 17025 is an international standard established to evaluate laboratories with respect to their technical competence and

adherence to quality systems. Laboratories seeking ISO/IEC 17025 accreditation undergo a rigorous assessment by a government body or qualified independent, nonprofit organization such as the American Association for Laboratory Accreditation (A2LA). Technical assessors who are recognized specialists in their fields conduct these evaluations. Laboratory staff, practices, and equipment are assessed to assure technical competence, test validity and appropriateness, suitability of the testing environment, calibration and maintenance of equipment, proper sampling procedures, adherence to quality management systems, and more. Accredited labs undergo periodic reexaminations and proficiency tests to assure validating of testing and maintain their accreditation.



*ISO: The International Organization for Standardization. IEC: International Electrotechnical Commission.

Engel Metallurgical has achieved accreditation from A2LA to perform laboratory tests for performing failure analysis, providing product evaluations, and for materials testing. This accreditation applies to tests that fall into the following categories:

- Dimensional inspections
- Hardness
- Tensile
- Ductility
- Metallographic evaluation
- Scanning Electron Microscopy (SEM)/Energy Dispersive Spectroscopy (EDS)
- Failure analysis

The accreditation applies to the following materials:

- | | | |
|---------------------|------------|------------|
| • Metals and alloys | • Forgings | • Polymers |
| • Castings | • Coatings | • Rubber |
| | • Plastics | |

The Benefits of Accreditation

Accreditation provides assurance that the test results produced by a laboratory are valid. Customers stand to benefit greatly by utilizing an accredited testing laboratory. Some of the benefits to the customer are:

- Improved quality
- Measurement traceability to national/international standards
- Assurance of competency and performance
- Reliable documentation
- Greater credibility
- Reduced costs
- International acceptance, thus eliminating redundant tests (MRAs)
- Minimized risk
- Protection of reputation

Gaining ISO/IEC 17025 accreditation is a far more extensive process than what an organization undergoes to become ISO 9001 or 9002 certified. Going beyond merely evaluating an organization for its adherence to a quality management system, ISO/IEC 17025 serves as the internationally-recognized standard used to evaluate a laboratory's technical competence. This means testing labs that are accredited to ISO/IEC 17025 also operate in accordance with ISO 9001 and 9002. Engel Metallurgical recognized what a huge commitment it would take to achieve this accreditation, but also understood how its customers would benefit once accreditation was awarded.



**To see our Scope of Accreditation,
go online to the following link:
www.a2la2.net/scopepdf/2065-01.pdf**

Choosing an Accredited Laboratory Can Be Very Good for You.

There are a host of reasons why using an accredited laboratory makes sense when it comes to testing or measurement, many of which have been already covered in this newsletter. But there are even more reasons to choose an accredited lab.

Certain industries (e.g., automotive) require component producers to use accredited labs for testing in order to comply with quality management programs. Government and private contracts often

require the use of accredited labs when testing is needed. Another reason is liability—your company can be held liable for any failure of your product, especially if it causes injury or monetary loss. Testing your product, and the materials that go into it, can prevent litigation against you. Finally, manufacturers who can back up their product claims with test data from an independent, accredited lab are perceived to be more credible.

Let Engel Metallurgical Make Your Life Easier.

In addition to all the advantages that go along with our recent accreditation, there are many more reasons to choose Engel Metallurgical as your independent materials engineering and consulting company:

- Knowledgeable engineers to discuss your needs, prior to committing money.
- Once we know your needs, we will give you a free, no-obligation quote.
- We're flexible in how we approach your project, and can tailor our services to fit your needs.
- Our results can be reported electronically in formats easily imported into your existing database or spreadsheets.
- We turn projects quickly based on your production schedule—in as little as 2-3 days.
- Our test results of your materials will be recognized and accepted internationally.

Accreditation Opens Doors to the World.

Before your product can be released onto the world market, governments will require evidence that it complies with their specifications and safety regulations, in order to protect the well-being of their populations, their economies, and the environment. While barriers to trade in the forms of tariffs, quotas, and subsidies have largely disappeared in recent years with the rise of global free trade, technical barriers to entry have been on the rise.

Governments aren't the only ones demanding your product meet required specifications. Once you've gained entry into a market, potential customers will invariably require proof that your product will meet their specifications, and perform as you claim it will before agreeing to purchase from you.

This is where having reliable test data from an accredited lab can make all the difference in gaining global acceptance for your product. Test data of this nature provide assurance to governments and customers alike that your product meets their technical specifications, while providing valuable information about your product's quality of design, materials, processes, and performance.

Prior to the development of international standards, products tested and accepted in one country had to be retested again prior to launching in each new foreign market. This was obviously expensive for manufacturers and inefficient for all involved. The development and widespread adoption of ISO/IEC 17025 has enabled a uniform methodology to the evaluation of the technical competence of laboratories, and their adherence to quality management systems. Furthermore, a series of reciprocal international agreements known as Mutual Recognition Agreements (MRAs) have allowed for widespread acceptance of test data from accredited labs between nations, eliminating the need for redundant retesting. If your product has been shown to meet the specifications required of a potential new market or customer by test data from an accredited laboratory, you have just removed a major barrier to making sales. Your results are presumed to be valid and reliable, and will often be accepted without question.

Partnering with Engel Metallurgical can open doors for companies who want to look beyond the domestic market and become a truly global organization.