



Our Research & Development Laboratory Can Help:

- Improve Part Quality
- Quantify Existing Welding and/or Heat Treatment Processes
- Develop New Welding and Heat Treatment Processes
- Create Reliable Parts Production Expectations
- Test and Qualify Material Joining and Process Results
- Establish Machine Performance Criterion

Equipped with state-of-the art resistance, arc, plasma, and robotic welding systems, as well as induction heating power supplies and testing/qualifying equipment; Taylor-Winfield's experienced staff of professionals are dedicated to achieving your production goals.

A photograph of a person in a white lab coat sitting at a desk in a laboratory, looking through a microscope. The background is a blurred industrial or laboratory environment with various pieces of equipment and cables.

LABORATORY

Research & Development

COIL JOINING • RESISTANCE WELDING • INDUCTION HEATING • AUTOMATED ASSEMBLY • ARC WELDING SYSTEMS

Welcome to Our Laboratory

As the world demands stronger, lighter, more reliable and more efficient materials; the role of independent testing, inspection, and analytical laboratory validation is increasingly crucial to every industry.

Material Joining & Testing:

Taylor-Winfield has one of the few full-service laboratories in the world. With a database of over 30,000 reports, customers can contract our lab services for refinement of current processes, suggestions for tooling improvements and selection of new equipment.

Taylor-Winfield offers welding, metallurgical testing and validation for welding processes including, but not limited to:

Resistance:

- Spot
- Seam
- Projection
- Flash

ARC:

- MIG
- TIG
- Plasma
- Sub-ARC

New process verification and validation is available for establishing new joining processes, changing current joining methods, improving existing process quality/reliability and cost reduction. Below are a few examples:

- ✓ Changing from single spot welds or arc welding to projection welding.
- ✓ Multiple spot welding to roll spot seam welding.
- ✓ Flash Butt welding for continuous processes such as angle, strut bar and tubing/pipe lines.
- ✓ Part redesign to change from MIG to projection welding.

The above services helped customers reduce cycle times and labor costs, while improving weld quality and realizing a significant ROI. Dedicated fixture tooling and/or a six axis Motoman robot is also available for process development and validation.



Industries We Serve:

- Aerospace
- Automotive
- Appliance
- Electronic & Electrical Equipment
- Fabricated Metal Products
- Industrial Machinery
- Oil & Gas
- Power Generation
- Primary Metals & Metal Processing
- Sporting Goods & Armaments
- Transportation
- Many More





Induction Heating:

The Induction Heating area of the Laboratory is capable of developing testing and validating the following processes for continuous, batch or intermittent use:

- Hot Forming
- Melting
- Heat Treating (Hardening & Annealing)
- Forging
- Brazing & Soldering
- Process Heating



Induction Heating Equipment:

- Power Range: 1 KW to 100 KW
- Frequency Range: 3 KHz to 5MHz
- Vacuum Heating Capability
- Work Coil Design

Services and Capabilities:

- ✓ Weld failure analysis
- ✓ New process verification
- ✓ Testing: Push-out, tensile, bend, bulge, hardness, photo micrographs, abrasive cut off
- ✓ Buehler Compression Mounting Press
- ✓ Lobe analysis (weld schedule range)
- ✓ Macro and micro section analysis



**Taylor
Winfield**
Technologies, Inc.
Material Joining Solutions
1.800.523.4899

Let's Get Started...

Wonder if your parts can be spot, projection, flash, seam or arc welded? Find out at Taylor-Winfield's Laboratory. We can make your idea work. We offer accurate and reliable testing results in a timely manner. Average sample turn-around time is 7-14 business days. We can also complete small production runs for customers who only need limited quantities of parts.

Our Commitment to Quality

Our laboratory personnel bring process testing and validation experience to material joining, failure analysis, parts processing methodology and improving manufacturing processes.



Taylor-Winfield can save time and costs involved in developing new manufacturing processes. We take the guess-work out of determining which methods to consider for

new material joining processes or existing process improvement and validation.

Contact Taylor-Winfield today to discuss your application and our standard lab rates for development services.

- Research & development
- Improvements to existing machinery
- Purchase of new machines
- Identify cost-reduction strategies
- Processing of samples
- Small production runs
- Experimental work
- Troubleshooting
- Improve processes to increase part quality
- Reduce production costs

Innovator of World-Class Material Joining Machines & Systems



Taylor-Winfield Technologies is dedicated to bringing advanced manufacturing technologies and processes to our customers to enable them to compete in today's ever changing markets.

You can count on Taylor-Winfield Technologies for experience, quality craftsmanship and innovative engineering solutions that produce the most sought-after material joining machines and systems in the capital equipment manufacturing industry. By providing simple to complex material joining machines, part production and assembly systems with on-going field service and replacement parts support, Taylor-Winfield remains the company customers can trust into the future.

**Taylor
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