



## **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.



**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 | ■ Projection |
| ■ Seam | ■ Flash      |

### ARC:

- |       |           |
|-------|-----------|
| ■ MIG | ■ Plasma  |
| ■ TIG | ■ 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  
Winfield**  
Technologies, Inc.

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