



A single-source solution to any Contract Friction Welding need, MTI offers a broad range of Friction Welding machines and an array of in-house value-added services including custom design engineering, research and development resources, and pre- and post-weld processing.

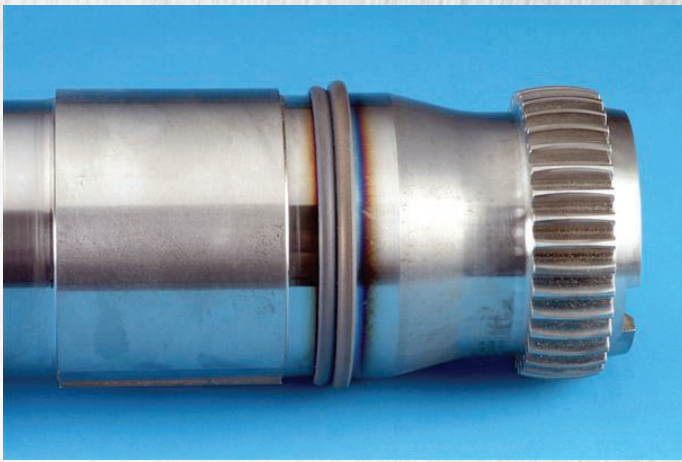
## JOINING AND WELDING SERVICES – OUR CAPABILITIES

As the world leader in the design, manufacture and installation of Friction Welding machines, MTI is able to offer world-class Friction Welding Contract Services that include:

- Direct Drive Friction Welding
- Inertia Friction Welding
- Linear Friction Welding
- Friction Stir Welding
- Resistance Welding (Spot, Seam, Projection Butt and Flash/Butt)
- Value-Added Services
  - Material Procurement
  - Pre-weld Processing (Cutting, Machining, Heat Treat)
  - Post-weld Processing (Weld Flash Removal, Turning, Milling/Grinding, Heat Treat)
  - Tooling
  - Feasibility Studies and Prototype Welding
  - Metallurgical Evaluations and Testing
  - Custom Engineering, Application Development, and Process Optimization
  - Research and Development

## UNIQUE ADVANTAGES OF A SINGLE-SOURCE SOLUTION:

- Because of the wide variety and range of machinery in MTI's Contract Welding Services, a rapid and quality turnaround is ensured.
- Parts thought to be unweldable are commonly welded at MTI.
- MTI offers a full range of value-added services to produce high-quality, timely part production.
- A large inventory of fixturing and part contact tooling can reduce time-to-product and reduce cost.
- MTI has a large experience base to assist customers in design.
- Full metallurgical evaluations and testing are available.
- Our on-site metallurgist has over 30 years of experience devoted to the Friction Welding of metallic materials, in both similar and dissimilar metal combinations.
- Customers can develop parts without affecting in-plant production facilities.



### FEASIBILITY AND PROTOTYPE STUDIES

By taking advantage of MTI's design experience in the prototype stage, customers can save time and money, while also reducing the number of steps to reach their production goal.

### METALLURGICAL EVALUATIONS AND TESTING

Should you ever require detailed metallurgical evaluations, MTI offers a full-range of testing and evaluations to confirm physical properties of the part and/or weld zone.

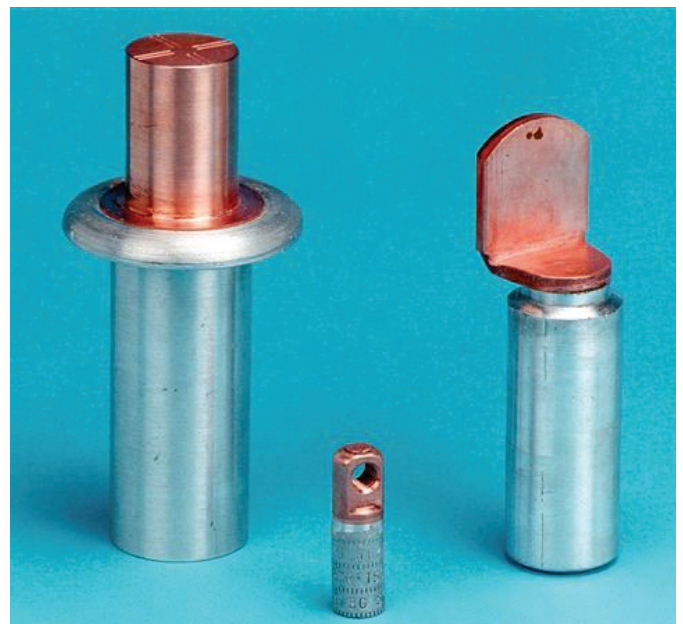
### APPLICATION DEVELOPMENT: PROCESS OPTIMIZATION

- Our experts include a Chief Metallurgist with over 30 years of experience in the Friction Welding industry.
- MTI's experience allows for optimizing the process without extensive trial and error.
- By using MTI's contract services, customers can explore new applications and markets without a large investment in capital equipment.
- MTI can support the customer's need to supply product throughout the entire process – making the transition from prototype to full production a smooth process.



### RESEARCH AND DEVELOPMENT

- Our development and feasibility experience allows customers to explore new designs and applications without workflow disruptions in their manufacturing facility.
- Our experience provides the background to recommend, design, and prototype unique and innovative solutions to the product development/improvement process.
- MTI's design team can also expose additional savings and technical value to new and existing designs.



**Manufacturing Technology, Inc.**  
Solid-State Joining & Welding Solutions, Equipment & Services

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