Adapting both innovative and traditional manufacturing methods to improve functionality and costs

CTC has experience in an innovative manufacturing method—flowforming—which is significantly more cost effective than traditional machining methods for tubular components. A flowforming process was used to manufacture a traditional mortar tube from a new, stronger nickel-based alloy by constructing a process model that predicted ductile damage, roller loads, and the final net shape. These various process input parameters were then used to optimize machine setup, which maximized the probability of a successful operation, reduced costly preproduction trial and error by 90%, and reduced weight by 10%.

Concurrent Technologies Corporation (CTC) is an independent, nonprofit, applied scientific research and development organization. As a nonprofit, CTC partners with clients to provide the best possible advanced engineering & manufacturing solutions. We offer extensive manufacturing systems expertise, including:
- Additive Manufacturing
- Friction Stir Welding (FSW)
- Joining
- Machining

CTC’s quality management system is certified to the ISO 9001:2015 and AS9100D:2016; CTC’s environmental management system is certified to 14001:2015.
• We are applying our rich history in metals and metal processing solutions and making a multi-year commitment to explore how to best use additive manufacturing with a wide range of metal alloys.

• CTC is providing the DoD with extensive tooling and fixture design, process development, and fabrication capabilities for large, lightweight vehicle structures. These efforts have repeatedly proven the superior performance and cost effectiveness of friction stir welding relative to other conventional welding solutions.

• Our expertise includes advanced welding and joining techniques. CTC engineers have designed alternatives that have increased the structural integrity of welds, reduced labor hours by providing more user-friendly applications, and identified weld joint susceptibility.

• We develop and transition innovative manufacturing solutions to reduce costs in the U.S. industrial base.

**Contact**

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