

SUCCESS

LINCOLN[®]
ELECTRIC
THE WELDING EXPERTS[™]

WELDING CYCLE TIME REDUCED WITH

Surface Tension Transfer[®] (STT[®])

Pipe/Tubing

Thermax, Ltd.

Switching from TIG welding to Lincoln's[®] STT[®] process eliminates long set-up times and sends productivity soaring for India-based Thermax, Ltd.

- CHALLENGE -

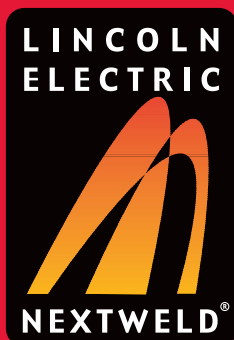
TIG welding small boiler tubes was time-consuming due to lengthy set-up times, hindering productivity.

- SOLUTION -

With Lincoln's[®] STT[®] process low heat input and excellent heat control, they are able to use a joint with no root face and no gap and still get excellent penetration.

- RESULTS -

Welding a 2 in. (50 mm) tube takes a mere 60 seconds, which increased productivity dramatically,



Thermax, Ltd. manufactures temperature indicators and strips, thermal fluid heaters, and other products used to monitor and record equipment temperature fluctuations in the food, medical, automotive and aerospace industries, among others.

Thermax has switched from TIG to the STT[®] process for welding small boiler tubes used in thermal fluid heaters. Because fit-up has to be perfect when TIG welding, set-up

“With STT's[®] low heat input and excellent heat control, they are able to use a joint with no root face and no gap and still get excellent penetration.”

time was too long, and productivity was slowed. With STT's[®] low heat input and excellent heat control, they are able to use a joint with no root face and no gap and still get excellent penetration. Two long seamless tubes are joint prepared

and fixtured in a lathe. The tubes are rotated and welding proceeds in the 1G position.



After each root bead, the capping pass is welded with the same parameters as the root pass by weaving the torch to fill up the joint. This operation has been automated to start the weaving automatically upon completion of the root pass. With STT[®], penetration is outstanding with an excellent back bead, and a smooth, polished finish on the cap pass is obtained.

Thermax is now welding a 2 in. (50 mm) tube that takes a mere 60 seconds. Their goal is zero defects in the first year of operation, as well as Six Sigma.

The future of welding is here.[®]

Surface Tension Transfer® (STT®)

2/2

Thermax, Ltd.

Featured Lincoln Products

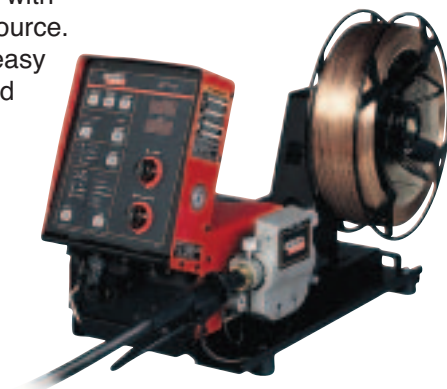


Invertec® STT® II

The STT® II combines high frequency inverter technology with advanced Waveform Control Technology® in place of traditional short-arc GMAW welding. The STT® II's precise control of the electrode current during the entire welding cycle significantly reduces fumes, spatter and grinding time. In addition, the unit offers independent control of wire feed speed and current.

STT®-10

The sophisticated STT®-10 Process Controller was designed specifically to work with the revolutionary STT® II power source. Microprocessor controls make it easy to develop optimal procedures and set the range of operator adjustments. Dual procedure control can increase or decrease the energy in the arc without changing the wire feed speed.



WHAT IS NEXTWELD?

The challenges facing industrial fabricators today are growing in number and complexity. Rising labor, material and energy costs, intense domestic and global competition, a dwindling pool of skilled workers, more stringent and specific quality demands all contribute to a more difficult welding environment today.

Through our commitment to extensive research and investments in product development, Lincoln Electric® has established an industry benchmark for applying technology to improve the quality, lower the cost and enhance the performance of arc welding processes. Advancements in power electronics, digital communications and Waveform Control Technology® are the foundation for many of the improvements.

NEXTWELD brings you a series of Process, Technology, Application and Success Story documents like this one. NEXTWELD explains how technologies, products, processes and applications are linked together to answer the important questions that all businesses face:

- How can we work faster, smarter, more efficiently?
- How can we get equipment and people to perform in ways they've never had to before?
- How do we stay competitive?

NEXTWELD is the future of welding but its benefits are available to you today. Ask your Lincoln Electric® representative how to improve the flexibility, efficiency and quality of your welding operations to reduce your cost of fabrication.

**LINCOLN®
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THE WELDING EXPERTS®

THE LINCOLN ELECTRIC COMPANY
www.lincolnelectric.com
1.216.481.8100