

LINCOLN ELECTRIC




# PROCESS HDT SOLUTION™

By combining a high-deposition waveform with a patented metal-cored wire, the Process HDT™ solution offers deposition rates that exceed tandem MIG with the streamlined set-up of a single-wire process. Utilizing the Power Wave® S700 power source, MetalShield® HDT™ metal-cored wire and the licensed Process HDT™ Waveform, the Process HDT™ solution provides a complete GMAW-C system for high-deposition, single and multi-pass welding applications.

**Solution Requirements:**

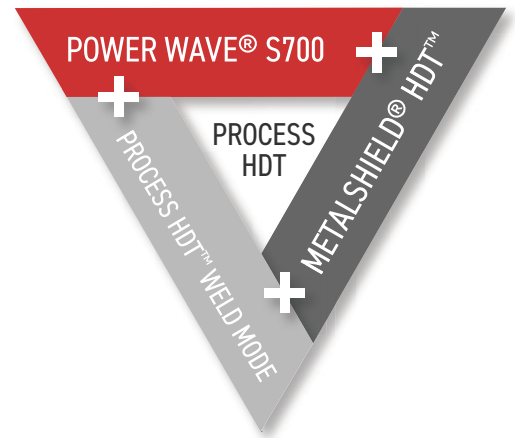
Process HDT is a licensed solution that is designed to perform specifically with Lincoln Electric MetalShield HDT welding wire. To access this licensed solution, activation is required through the Lincoln Electric REVEAL™ Activation Platform. [For more details, reference document MC20-106.](#)



 <p><b>UP TO 2.5X MORE DEPOSITION</b> Capable of up to 40 lb/hr (18kg/hr) with a single-wire, robotic solution.</p>	 <p><b>REDUCE COST AND COMPLEXITY</b> Increase productivity without the complexity of tandem MIG.</p>	 <p><b>INCREASE QUALITY</b> With a more stable, consistent welding arc.</p>
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## HEAVY FAB WELDING - REINVENTED

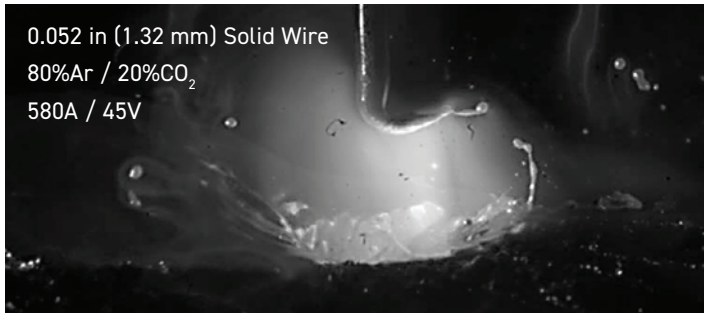
- » Complete GMAW-C solution for high-energy, high-deposition welding
- » Tandem MIG productivity with a single wire – eliminating the complexity of tandem MIG while providing deposition rates of up to 40 lb/hr (18 kg/hr)
- » Combines advanced licensed waveform with specially formulated metal-cored wire for increased deposition, weld quality and productivity
- » Excellent resistance to porosity and stable operation on mill scale
- » **Target applications:**
  - 1F, 2F welds, max. leg size 3/4 in (19mm) in 3 passes
  - 1G welds, max. groove thickness 1.0 in (25mm)
  - Maximum recommended weave width 3/4 in (19mm)



## PRODUCTIVITY GAINS

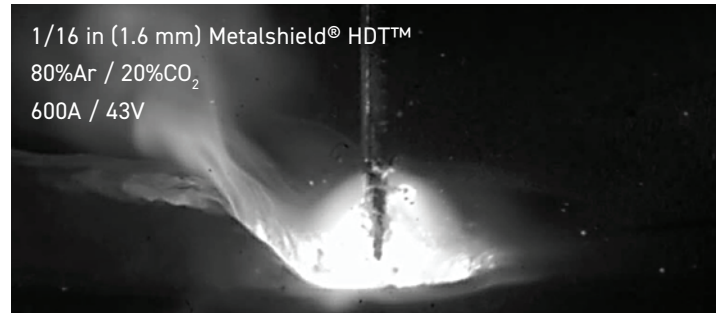
<b>PROCESS HDT™ 1/16 in (1.6 mm)</b>	<b>40 lb/hr (18 kg/hr)</b>
TANDEM MIG® 0.045 in (1.2 mm)	30 lb/hr (13.6 kg/hr)
HYPERFILL® 0.045 in (1.2 mm)	25 lb/hr (11.3 kg/hr)
SINGLE WIRE 0.045 in (1.2 mm)	15 lb/hr (6.8 kg/hr)

# ARC CHARACTERISTICS



## SOLID WIRE - AT ELEVATED AMPERAGES

High amperage welding with solid wire creates an erratic and unstable droplet transfer with high levels of spatter



## PROCESS HDT™ SOLUTION

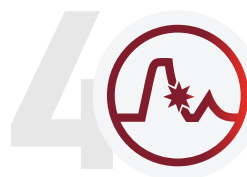
High amperage welding with Process HDT provides a consistent and stable droplet transfer with low levels of spatter

# SOLUTION COMPONENTS



## Power Wave® S700

- » Designed for high-amperage, high duty cycle GMAW applications
- » 700A / 44V / 100% Duty Cycle, 900A / 44V / 60% Duty Cycle, 200-230 VAC, 380-575 VAC, 3-phase, 50/60Hz



## Process HDT™ High Deposition Waveform

- » Licensed waveform for high-energy transfer
- » Patent-pending process for advanced current and voltage regulation
- » Maximum arc stability, consistent and uniform penetration, and reduced spatter



## Metalshield® HDT™ High-Deposition Metal-Cored Wire

- » Designed specifically for high amperage applications
- » Specially formulated to resist porosity and nitrogen pick up
- » Excellent weld profiles and good toe wetting for fatigue resistant welds
- » E70C-GM-H4 per AWS A5.18



## Harris® Model 425 Flowgauge Regulator

- » Designed for flow control of Argon mix gases from high pressure cylinders
- » For accurate measurement of gas flow to 100 SCFH
- » 75-90% Argon / Balance CO<sub>2</sub>
- » Flow Rate 75-85 CFH (35-40 L/min)



## Magnum® PRO Water-Cooled Robotic Torch and Cool Wave™ 20S Water Cooler

- » Designed to run at higher amperages without sacrificing torch and expendable life
- » Conduction and convection cooling near the end of the torch keeps expendables cool
- » Extended expendable life, increased arc-on time, and lower replacement parts costs
- » Increased cooling capacity for high amperage applications

### Process HDT™ Waveform Activation Capability with Power Wave® Systems

Your purchase of a Lincoln Power Wave Welding System comes with (i) a license to use Lincoln Electric standard Power Wave waveforms, and (ii) Process HDT waveform capability, which requires a separate license. Without the separate license, the Process HDT waveform is not available for use on these machines, and only the standard Power Wave waveforms are usable.

### Test Results Disclaimer

Test results for mechanical properties, and deposition rates were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

### Customer Assistance Policy

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.