

LINCOLN ELECTRIC

# HYPERFILL<sup>®</sup>

## GMAW

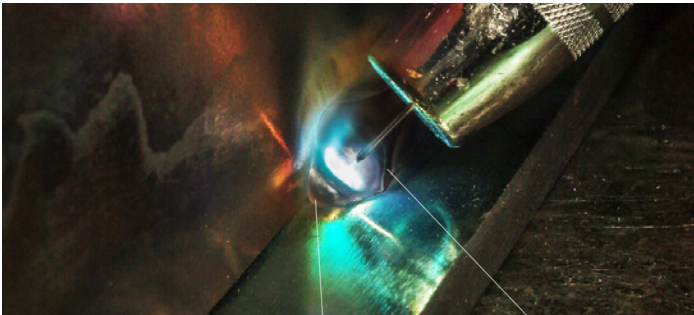
Designed to revolutionize heavy fabrication productivity, the patent-pending HyperFill twin wire MIG solution allows for increased deposition rates without compromising puddle stability or weld quality. Utilizing a single power source, a single wire feeder, and a single tip, this innovative twin wire design delivers a wide, smooth arc cone that allows for deposition rates above 18lbs/hr | 8.2 kg/hr. (24 lbs/hr. | 10.9 kg/hr robotic) without added system or operator complexity.



### PROCESS COMPARISON - 5/16 IN | 8 MM FILLET AT 18 LBS | 8.2 KG / HR

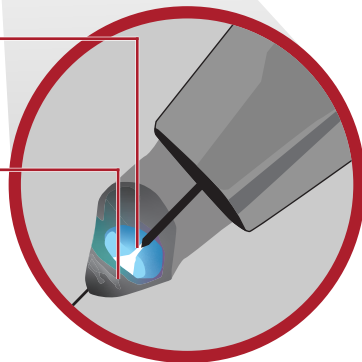
#### Single Wire

E70C-6M .052 IN (1.32 MM)

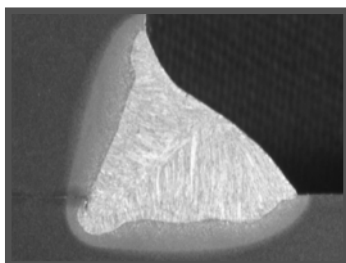


Generates a deep, narrow arc cone

Arc stability deteriorates at higher wire feed speeds making process more difficult to use

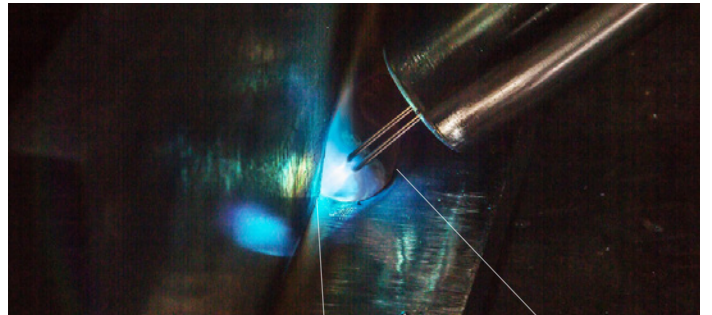


Narrow arc cone, narrow penetration profile. Increased risk of weld defects at higher deposition rates.



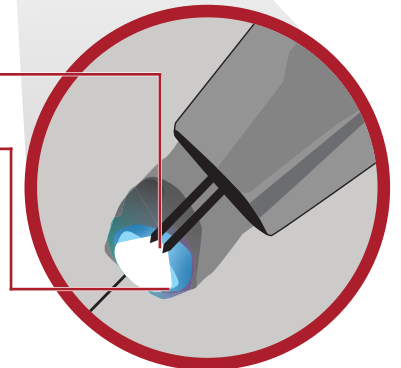
#### HYPERFILL

SuperArc<sup>®</sup> .040 IN (1.0 MM)

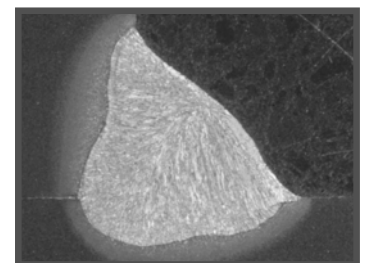


Generates a wide, evenly-distributed arc cone

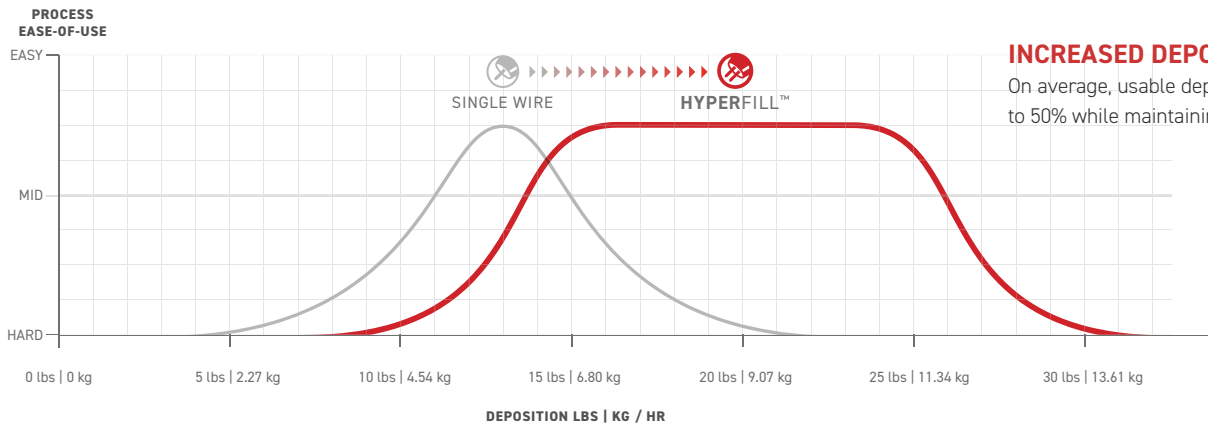
vs. Smooth, stable puddle is more favorable and makes process easy to use at higher deposition rates



Wide arc cone leads to favorable, robust penetration profile and helps to improve weld quality at high deposition rates.



# PROCESS COMPARISON - DEPOSITION RANGE



## INCREASED DEPOSITION RATES

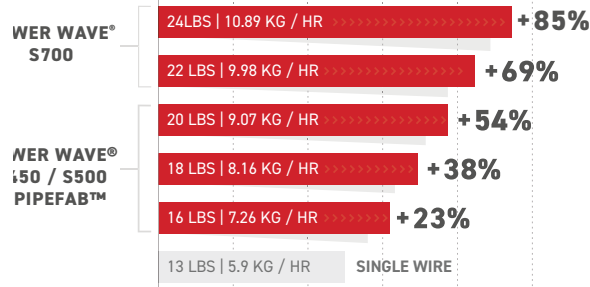
On average, usable deposition rates increase up to 50% while maintaining process ease-of-use.

# PRODUCTIVITY INCREASE SINGLE WIRE VS. HYPERFILL

## BASELINE PARAMETERS

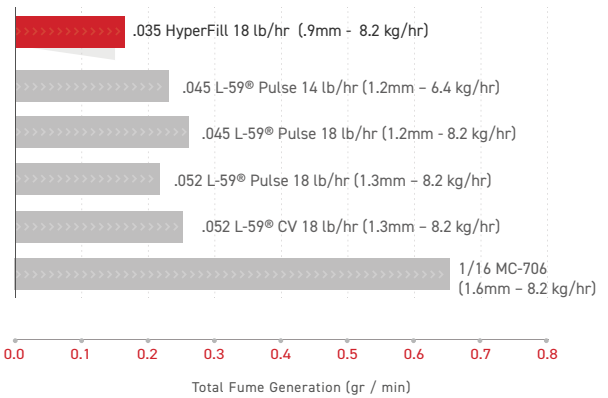
Single-wire at 13lbs/hr. (5.9 kg/hr)  
5/16" (8mm) 2F weld

3.28 ft (1m) weld distance  
13in/min (33cm/min) travel speed  
3 min. weld time



DISTANCE TRAVELED	0,0 FT	1,31	2,62	3,94	5,25	6,56
	0,0 M	0,4	0,8	1,2	1,6	2,0

# FUME GENERATION CHART



## Hyperfill Special Considerations

Procedures should be validated if HyperFill GMAW (solid wire) is used in multi-pass applications.

## Recommended single pass fillet weld size by position

Position	Leg Size in. (mm)
1F (PA)	1/4 - 1/2 (6 - 12)
2F (PB)	1/4 - 5/16 (6 - 8)

# REQUIRED COMPONENTS



## Power Source

Power Wave® S500  
PIPEFAB™ (Process Pipe)  
Cool Arc® 55 or 55S



## Specialized Waveform

HyperFill® Waveform



## Gun / Wire Feeder

Magnum® PRO 500A Water Cooled Gun  
Power Feed® 84  
HyperFill® Tip (Contact tip, Diffuser)  
HyperFill® Drive Rolls



## Lincoln Electric Premium Wire

Lincoln Electric premium wire is a critical input for the HyperFill® Solution. Tight manufacturing tolerances and chemistry control ensure consistent wire feeding and arc performance.

## Test Results Disclaimer

Test results for mechanical properties, deposit, fume generation, or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards. Actual results will vary depending on many factors, including, but not limited to: the base material or substrate being welded, the welding procedure and welding process, and the unique conditions present in the workplace or welding environment. Users and employers have the sole responsibility for and control over workplace conditions, including the manner in which work is performed and the safety measures taken. Always read and follow applicable OSHA regulations as well as all information on product labeling and safety data sheets when using Lincoln Electric products. Safety data sheets for Lincoln Electric products can be found at <http://www.lincolnelectric.com/en-us/support/msds/Pages/sds-search.aspx>. Users and employers should have an industrial hygienist check worker exposure levels to be certain that they are within applicable OSHA PEL and ACGIH TLV limits for the particular application or weldment.

## HyperFill™ Waveform Activation Capability with Power Wave® and PIPEFAB™ Systems

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

For more information, please see the REVEAL/HyperFill Supplemental Terms and Conditions [here](#).

## 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.