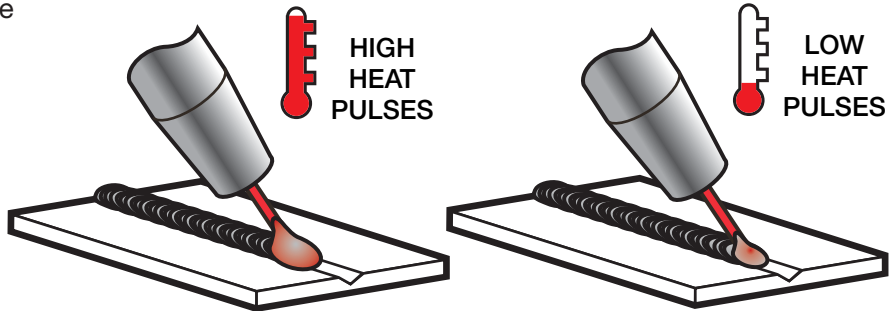


Pulse-on-Pulse™ GMAW Process

Pulse on Pulse GMAW® – GTAW appearance with GMAW productivity.

- Excellent control of heat input on thinner materials.
- Eliminates in-line weaving.
- Optimum productivity in robotic and semi-automatic applications.
- Uniform, consistent beads on welds in which appearance is critical.
- Easier training/Skill level.



Pulse on Pulse™ (GMAW-PP) is a Lincoln patented process specifically designed for use in welding relatively thin (less than 1/4" thick) aluminum. It produces weld beads with very consistent uniform ripple.

In Pulse on Pulse modes, two distinct pulse types are used, instead of the single pulse type normally used in GMAW-P. A number of high energy pulses are used to obtain spray transfer

and transfer metal across the arc. After a number of such pulses, depending on the wire feed speed used, an identical number of low energy pulses are performed. The Peak Current, Background Current, and Frequency are identical for the high energy and low energy pulses. However, the details of the current ramp up and ramp down rates mean that a low energy pulse contains less energy.

FEATURES

TRAINING/SKILL LEVEL

EXPERIENCED NOVICE

Pulse-on-Pulse GMAW®

Aluminum TIG

APPEARANCE

FLAT "STACKED DIME"

Pulse-on-Pulse GMAW®

Aluminum TIG

TRAVEL SPEED/PRODUCTIVITY

LOW HIGH

Pulse-on-Pulse GMAW®

Aluminum TIG

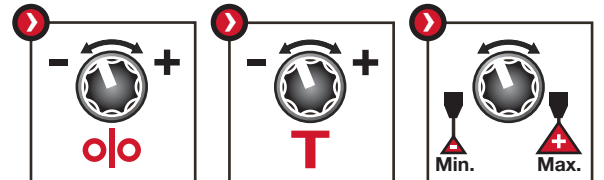
HEAT/DISTORTION

HIGH LOW

Pulse-on-Pulse GMAW®

Aluminum TIG

Utilizing Pulse-on-Pulse™



Adjust WFS to:

- Control the weld deposition rate.
- Control heat input.

Adjust TRIM to:

- Control the arc length for a more stable process.

Adjust UltimArc™ to:

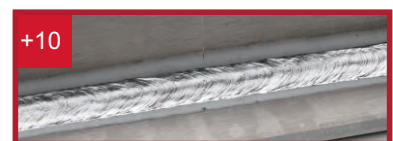
- Increase or decrease the space between the "ripples."



+10

0

-10

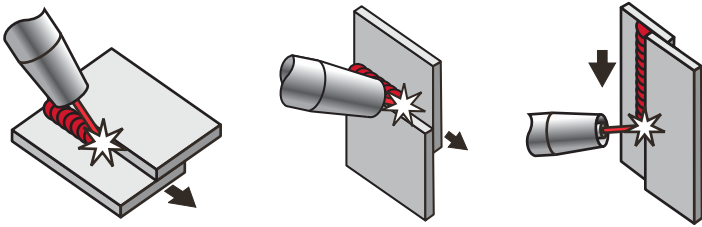


LINCOLN®
ELECTRIC







The Performance You Need.
The Quality You Expect.™

Applications

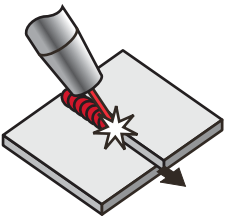
1F / 2F / 3F Lap & Fillet









Power Mode on the Power Wave i400[®] and Power Feed SA[™]

							P	V	A
* 4043 Wire 3/64 in (1.2 mm)	100% Ar	in (mm) 1/2 (12.7)	in (mm) 3/16 (4.8)	in/min 325	in/min 25	Power 4.75	Approx. 23.5	Approx. 202	

1G / 2G Butt & Groove



Power Mode on the Power Wave i400[®] and Power Feed SA[™]

							P	V	A
* 5356 Wire 3/64 in (1.2 mm)	100% Ar	in (mm) 1/2 (12.7)	in (mm) 3/16 (4.8)	in/min 400	in/min 25	Power 4	Approx. 22.3	Approx. 180	

*See the Power Mode[™] Aluminum Welding Process Guide for: technical data, proper set-up, application settings and troubleshooting.

Recommended Equipment

Power Source

POWER MIG[®] 350 MP,
Power Wave[®] C300, S350, i400 & S500
INVERTEC[®] V350-PRO

Wire Feeder

Power Feed[®] 25M AL

Accessories

SUPERGLAZE[®] 4043 TM[™]
SUPERGLAZE[®] 5356 TM[™]

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 customer and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

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