High-Deposition MIG

- Deltaweld® with Intellx™ Elite
- Continuum™

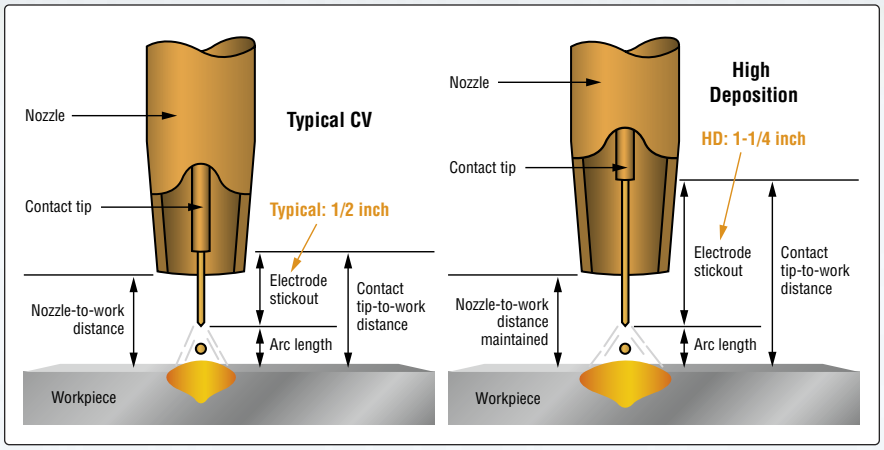
Material Thickness 3/16+ in.

Welding Positions

HD MIG is an extended stick-out CV GMAW process with optimized starts for high-deposition welding.

Using HD MIG allows for lower heat input than conventional CV Spray at high-deposition rates, which allows for better bead appearance, more control, and less distortion on large structures.

A longer than standard nozzle is used to increase your contact tip-to-work distance (CTWD). This allows for an extended CTWD while retaining a conventional look from the operator's perspective.



Material applications: thicker carbon steel

Industry applications: earth-moving equipment, structural steel fabrication, and heavy manufacturing

HD MIG Benefits

HD MIG Welding

- Allows for deposition rates of 20+ pounds per hour
- Increased wire feed speed at the same amperage as conventional CV
- 5/16-inch fillet welds at up to 22 inches per minute

Lower Heat Input

- Lower heat input can help reduce warping and burn-through
- Increase control at higher deposition rates

All Skill Levels Can Use It

- Skilled operators can take advantage of the higher deposition rates to make big welds faster, while less skilled operators will appreciate the simplicity and ease of making large welds at high-deposition rates
- Simple to set parameters because it is the same as conventional CV

Auto or Semi-Auto Applications

- Ideal for applications where an operator needs the ability to make large welds faster
- The controllable arc makes large welds easier to accomplish even with less-skilled operators
- HD MIG can be used with through-arc seam tracking

Feature Definitions

Wire Feed Speed (WFS)

- Wire feed speed is the first of the two main controls for HD MIG. The preset WFS will determine the deposition rate and will have a large effect on the amperage. With synergic* MIG enabled, a recommended voltage will be displayed. This will change automatically as your WFS is adjusted.

Increase	• To increase deposition for faster travel speeds and increase bead size • To increase amperage and penetration
Decrease	• To weld on thinner materials (down to 3/16 inch) • To reduce amperage and penetration

Voltage

- Voltage is the other main control for HD MIG. Voltage adjustments will change the physical arc length. Increasing will make the wire burn closer to the contact tip and decreasing makes the wire burn closer to the workpiece.

Increase	• To reduce spatter production • To create a flatter bead profile
Decrease	• To help increase travel speed • To provide more control of the weld puddle • To provide more crackle in the arc

Inductance

- In HD MIG, inductance will effect how a short circuit is cleared in the weld. This change will only be noticeable with a tight arc length when shorts are occurring, and the effect will be minimal.

Increase	• To provide a softer arc characteristic
Decrease	• To provide a stiffer arc characteristic

**Synergic control is tied to WFS. Synergic control is when user changes the WFS, the voltage is changed accordingly for the deposition being commanded. This ensures the user always has a good arc to start with, no matter where the WFS is set.*

2F Fillet Welds (1-1/4 inch CTWD)

Quantum Arc 6 90/10 Ar/CO_2	Base Material Thickness (in.)	Weld Size (in.) *(Leg Size)*	Travel Speed (ipm)	WFS (ipm)	Voltage	Amperage	Dep. Rate (lb./hr.)
0.045-inch	1/4	1/4	18	400	28.3	243	10.5
			22	500	29.7	279	13.3
	3/8	5/16	18	575	31.0	297	15.5
			22	775	33.5	355	21.0
0.052-inch	1/4	1/4	18	300	27.5	252	10.1
			22	375	29.5	293	12.6
	3/8	5/16	18	450	30.5	320	15.2
			22	575	33.0	370	19.4
0.062-inch	1/4	1/4	18	185	26.5	267	9.1
			22	230	27.5	306	11.5
	3/8	5/16	18	300	28.7	367	15.0
			22	380	33.0	450	19.0