

Upgrade to SilverLine® technology!

Patented SilverLine technology improves electrode and nozzle life—so you can cut more metal with one set of consumables. To start saving with SilverLine just follow the instructions on our Quick Set-up card: the more you cut the more you save!

Centricut product for ESAB

PT-24 Precision Plasmarc®

Quick Set-up



To achieve maximum SilverLine electrode life

A fully used SilverLine electrode will have a pit depth of .060 in. (1.5 mm). Note: This is deeper than the recommended pit depth for standard parts .040" (1 mm).

Purge torch: after each parts change purge the torch for at least 30 seconds to remove residual moisture.

Leak check the torch after purging to make sure all o-ring and metal-to-metal seals are working as designed.

Adjust gas flows: Plasma gas flow rate is critical. High flow will cause rapid electrode wear and hard starting. Low flow will cause uncontrolled arcing. (See parameters)

Adjust arc voltage: As the electrode wears, the torch will get closer to the plate. To compensate for this, increase arc voltage in 2-volt increments, up to 10 volts higher than the initial setting.

Avoid ramp-down errors: Ramp down errors can occur when rip cutting off the plate or when leading out to the dropped part as the arc stretches. These "blowouts" shorten electrode life by 10 or more starts per occurrence.

Part number	Reference number	Description
1. L70-758	21758	PT-24 Torch
2. L70-725	21725	Water baffle
3. C70-1039	21539	Electrode, SilverLine
4. C70-692	21692	Swirl baffle 4-hole
5. C70-543	21543	Nozzle "D" 70 A
5. C70-923	21923	Nozzle "E" 100 A
6. C70-007	22007	Nozzle retainer diffuser
7. C70-010	22010	Shield cup insulator
8. C70-712	21712	Shield retainer insulator with o-ring
9. C70-531	22531	Cup shield with retainer

To achieve maximum nozzle life

With careful use, the nozzle can last 1:1 with the SilverLine electrode.

Properly tighten the nozzle retainer: Make sure the nozzle retainer is sealed tightly against the nozzle to maintain a metal-to-metal seal and prevent leaking.

Pierce at correct height: Piercing too low causes molten metal (spatter) to hit the shield and nozzle. This is the most common cause of premature nozzle failure. Piercing too high can cause slow arc transfer and misfires. In most applications, 1/4" (6 mm) pierce height works.

Adjust shield flows: Correct shield gas flows during pre-flow protect the nozzle and shield from damage. Make sure pre-flow is adjusted according to the cut chart.

Clean the nozzle and shield: Periodically clean the nozzle and shield to remove spatter. This will prevent double arcing.

Adjust arc voltage: As parts wear, adjust arc voltage up in 2-volt increments to keep the shield from dragging on the plate. Damage to the shield and nozzle occurs if the torch contacts the plate during cutting.

Recommended parameters for mild steel cutting with oxygen

Metal Thickness		Plasma start	Plasma cut	Shield pre-flow	Shield cut-flow	Arc current	Arc voltage	Cut speed	
In.	mm	Flow %	Flow %	Flow %	Flow %	A	V	in./min	mm/min
.187	5	90	25	60	30	70	112	130	3302
.250	6	90	25	60	30	70	113	100	2540
.312	8	90	25	60	30	70	115	85	2159
.375	10	90	25	60	30	70	117	72	1829
.500	12	90	25	60	30	70	135	35	889
.625	16	90	25	60	30	70	137	25	635
.312	8	100	30	60	30	100	114	90	2286
.375	10	100	30	60	30	100	115	80	2032
.500	12	100	30	60	30	100	117	50	1270
.625	16	100	28	60	30	100	118	30	762
.750	20	100	28	60	30	100	122	25	635

SilverLine technology involves fusing a silver front-end onto a copper electrode base. Inserting the hafnium emitter into an all-silver front end versus copper creates two advantages.

- 1) The hafnium-silver bond is stronger, allowing a deeper pit depth in the hafnium as the electrode is used.
- 2) By diffusing more heat during use, silver slows the rate of hafnium wear.

Both of these benefits combine to prolong electrode life and lower the cost of cutting.

(See graph below)



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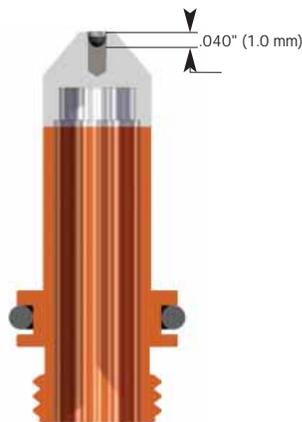
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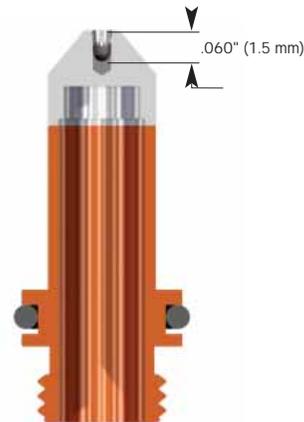
Half-used electrode

This SilverLine electrode is only half consumed. The pit in the center of the part measures .040" (1.0 mm). Electrodes are often removed prematurely due to cut quality deterioration related to nozzle failure. Additional life can be achieved by replacing the nozzle and leaving the electrode in place.



Fully-used electrode

The SilverLine electrode has provided full use. The pit depth is .060" (1.5 mm). The operator increased the arc voltage by 10 volts from the first cuts made with this electrode to the last. This maintains a constant distance between the torch and the work-piece through the life of the electrode.



Centricut product for PT-24 100-amp oxygen electrode life Benchmark testing results

