

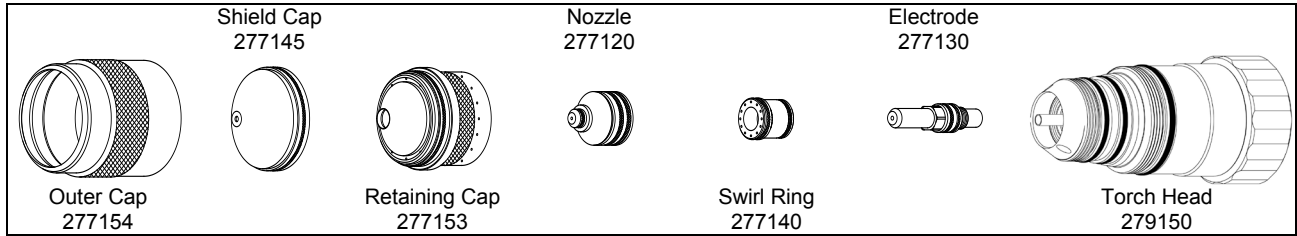
Cutting Charts

The cutting charts shown on the following pages are intended to give the operator the best starting point to use when making a cut on a particular material type and thickness. Small adjustments may have to be made to achieve the best cut. Also, remember that the arc voltage must be increased as the electrode wears in order to maintain the correct cutting height.

Cutting Chart Index

Material	Current	Plasma Gas	Shield Gas	Copper Electrode
Mild Steel	30 Amps	Oxygen	Oxygen	4-22
Mild Steel	50 Amps	Oxygen	Oxygen or Air	4-23
Mild Steel	70 Amps	Oxygen	Air	4-24
Mild Steel	100 Amps	Oxygen	Air	4-25
Mild Steel	150 Amps	Oxygen	Air	4-26
Stainless Steel	30 Amps	Air	Air	4-27
Stainless Steel	50 Amps	Air	Nitrogen	4-28
Stainless Steel	70 Amps	H17	Nitrogen	4-29
Stainless Steel	70 Amps	Air	Nitrogen	4-30
Stainless Steel	100 Amps	H17	Nitrogen	4-31
Stainless Steel	100 Amps	Air	Nitrogen	4-32
Stainless Steel	150 Amps	H17	Nitrogen	4-33
Stainless Steel	150 Amps	Air	Nitrogen	4-34
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Aluminum	50 Amps	Air	Nitrogen	4-36
Aluminum	70 Amps	Air	Nitrogen	4-37
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Aluminum	150 Amps	Air	Nitrogen	4-39

Mild Steel - 30 Amps - Oxygen Plasma / Oxygen Shield Copper Electrode



Imperial

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
20	.036	35	85	6	84	120	105	.080	.110	100	.062
18	.048					121	97	.090			
16	.060					125	78	.105			
14	.075					126	65	.120	.125	300	.070
12	.105					127	55				
11	.120					129	50				
10	.135					131	40				

Metric

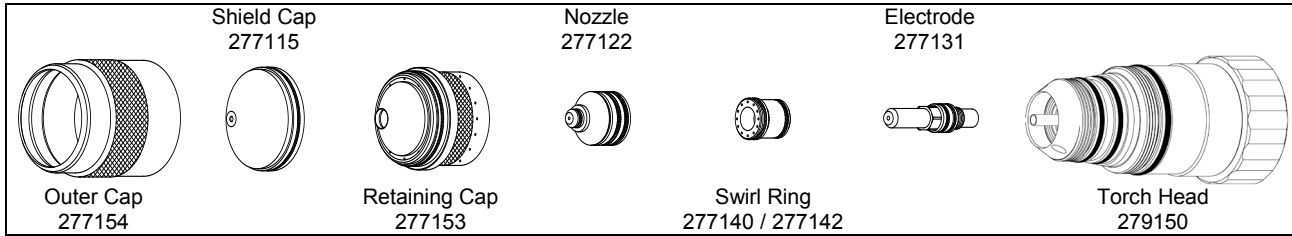
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
1		35	85	6	84	120	2615	2.0	2.8	100	1.6
1.5	124					2020	2.6				
2	126					1615	2.7				
2.5	1455					3.1	300	1.8			
3	128								1285	2.9	

Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Travel Speed		Marking Height		Initial Height		Pierce Time	
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	
All Thicknesses			N/A	28	28	N/A	145	250	6350	.177	4.5	.100	2.5	0

1. Revised on 10/21/2009

Mild Steel - 50 Amps – Oxygen Plasma / Oxygen or Air Shield Copper Electrode



Imperial

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width			
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)			
Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140														
12	.105	25	74	12	73	123	70	.120	.135	100	.075			
11	.120					126	60	.125						
10	.135					128	50	.135		200	.078			
Hot-Rolled Steel – Air Shield – Swirl Ring 277142														
14	.075	25	74	19	73	106	200	.100	.135	100	.075			
12	.105						190							
	.125						180							
10	.135					110	170	.110		200	.080			
	3/16					113	105	.140				.200	300	.085
	1/4					117	75	.225				400	.087	

Metric

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width	
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)	
Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140												
2.5		25	74	12	73	121	1895	2.9	3.4	100	1.9	
3						125	1555	3.1		200	2.0	
Hot-Rolled Steel – Air Shield – Swirl Ring 277142												
2.5		25	74	19	73	106	4885	2.5	3.4	100	1.9	
3							4660			200	2.0	
5						113	2555	3.6		5.1	400	2.2
6						116	2075	5.5				

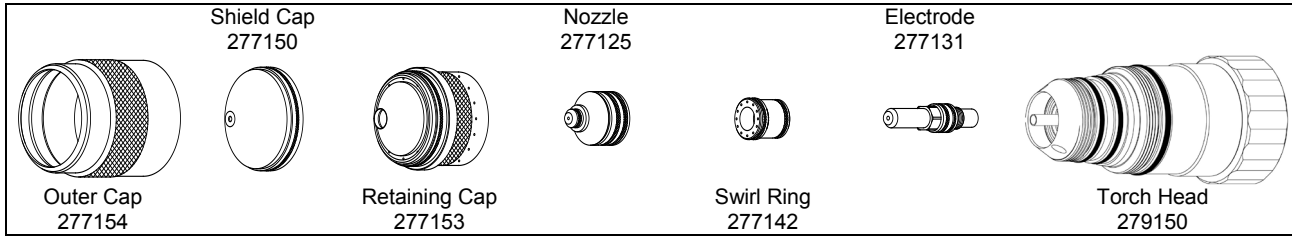
Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height	Initial Height	Pierce Time
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.147	3.7	.100 2.5 0

1. Revised 10/21/2009

This information is subject to the controls of the Export Administration Regulations [EAR]. This information shall not be provided to non-U.S. persons or transferred by any means to any location outside the United States contrary to the requirements of the EAR.

Mild Steel - 70 Amps – Oxygen Plasma / Air Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/8	25	80	35	79	110	190	.100	.150	100	.080
3/16			40		113	130		.200	200	
1/4			40		116	120	.225	300	.085	
3/8			40		122	75	.250	400		

Metric

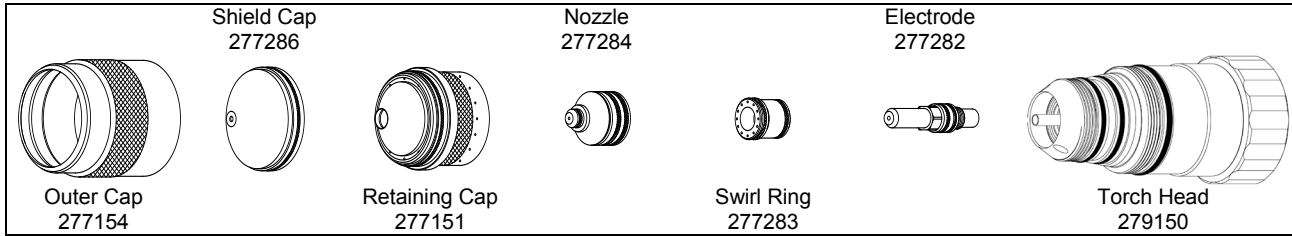
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
3	25	80	35	79	109	4995	2.5	3.6	100	2.0
5			40		113	3265		5.1	300	
6			40		115	3105	2.7	5.5	300	2.2

Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	28	N/A	135	250 6350	.096 2.4	.100 2.5	0

1. Revised on 12/01/2009

Mild Steel - 100 Amps – Oxygen Plasma / Air Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/4	25	94	26	93	125	150	.090	.200	300	.090
3/8					130	100	.130	.250	400	
1/2					130	65	.155	.300	500	
5/8					143	47	.185	.325	800	.095
3/4					145	35	.185	.350	1000	

Metric

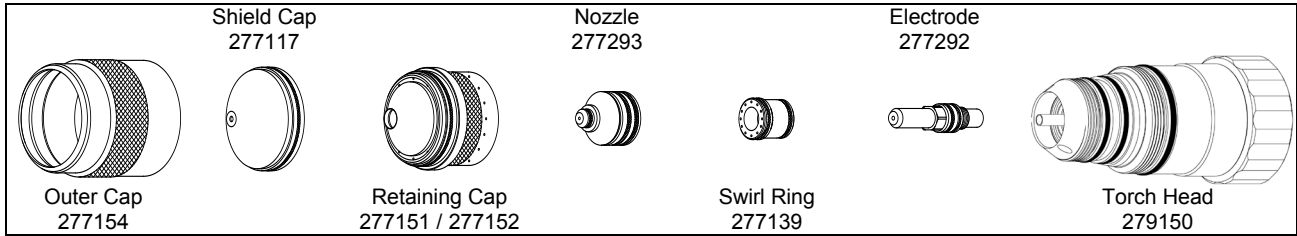
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
6	25	94	26	93	124	3950	2.1	4.9	300	2.3
10					130	2405	3.3	6.5	500	
12					130	1850	3.7	7.3	500	
16					143	1180	4.7	8.3	1000	2.4
20					145	800	4.7	9.0	1000	

Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	28	N/A	130	250 6350	.100 2.5	.100 2.5	0

* Use an arc transfer height (ignition height) of .200" (5.1 mm) for cutting and .100" (2.5 mm) for marking
1. Revised on 10/21/2009

Mild Steel - 150 Amps – Oxygen Plasma / Air Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
Retaining Cap 277151										
1/4	20	74	30	67	118	165	.105	.200	300	.125
3/8					123	125	.135	.250	400	
1/2					125	90	.140	.300	500	
Retaining Cap 277152										
5/8	20	74	45	67	127	70	.140	.325	600	.130
3/4					130	55		.350	1000	.135
1					134	40	.150	.400	1500	.140
1.25 **					145	25	.200			
1.5 **					155	15	.225			

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
Retaining Cap 277151										
6	20	74	30	67	117	4305	2.6	4.9	300	3.2
10					123	3040	3.4	6.5	500	
12					124	2485	3.5	7.3		
Retaining Cap 277152										
16	20	74	45	67	127	1760	3.6	8.3	1000	3.3
20					130	1340		9.0	1500	3.4
25					133	1040	3.7	10.1		
32 **					145	625	5.1	8.9		
38 **					154	385	5.6	8.9		

Marking

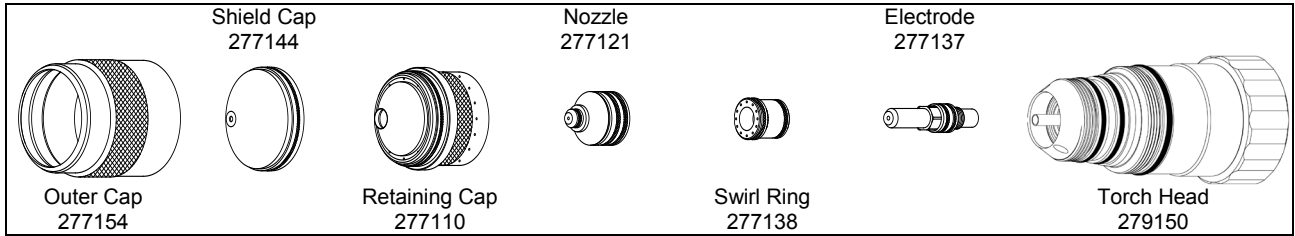
Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	28	N/A	135	250 6350	.100 2.5	.100 2.5	0

* Use an arc transfer height (ignition height) of .200" (5.1 mm) for cutting and .100" (2.5 mm) for marking

** Edge start recommended
1. Revised on 12/01/09

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Stainless Steel - 30 Amps – Air Plasma / Air Shield Copper Electrode



Imperial

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
20	.036	30	80	30	80	71	200	.020	.050	100	.065
18	.048					74	165	.035			
16	.060					75	125	.025		200	.068
14	.075					75	90	.025			

Metric

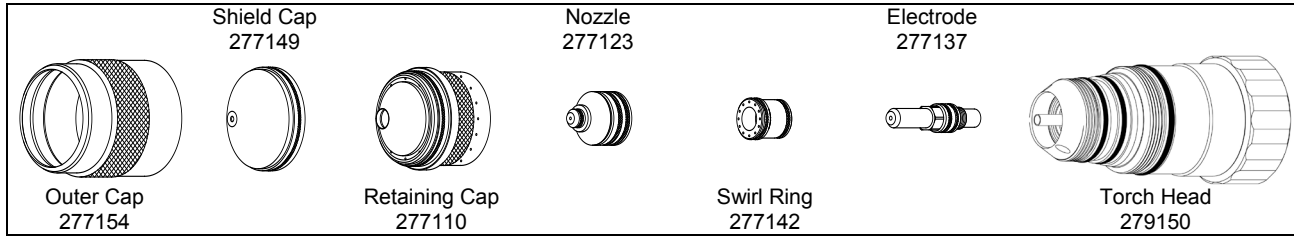
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
1		30	80	30	80	71	4855	0.6	1.3	100	1.7
1.5						73	3260	0.9		200	

Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Pierce Time
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.177	4.5	.100	2.5	0

* Use an arc transfer height (ignition height) of .050" (1.3 mm) for cutting and .100" (2.5 mm) for marking
(Revised 12/1/2009)

Stainless Steel - 50 Amps – Air Plasma / Nitrogen Shield Copper Electrode



Imperial

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
14	.075	30	70	40	70	87	105	.035	.070	100	.105
12	.105					88	75				
11	.120					89	65				
10	.135					90	55	.040	.080	300	.110
	3/16					94	50				
	1/4					100	40	.060	.125	400	.115

Metric

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
2		30	70	40	70	87	2565	.9	1.8	100	2.7
2.5							2080				
3							88				
5						94	1235	1.0	2.1	400	2.8
6						98	1075	1.3	2.9		

Marking

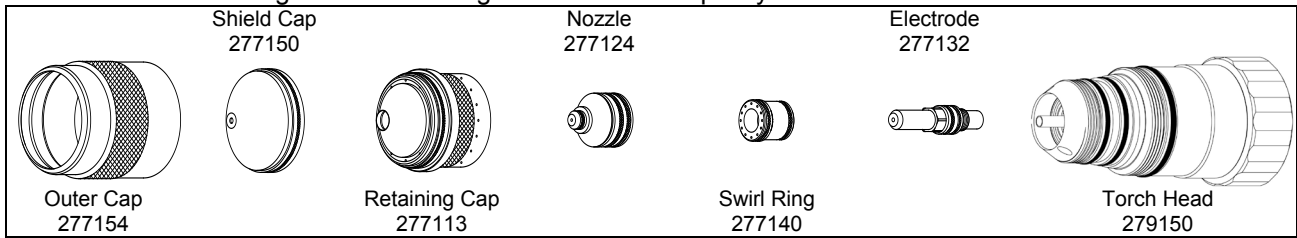
Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage		Travel Speed		Marking Height		Initial Height		Pierce Time
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	
All Thicknesses			N/A	28	25	N/A	145	250	6350	.147	3.7	.100	2.5	0	

* Use an arc transfer height (ignition height) of .070" (1.8 mm) for cutting and .100" (2.5 mm) for marking
(Revised 12/01/2009)

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Stainless Steel - 70 Amps – H17 Plasma / Nitrogen Shield Copper Electrode

This gas combination gives the best cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
3/16	35	60	36	60	135	80	.100	.200	300	.090

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
5	35	60	36	60	135	2030	2.5	5.1	300	2.3

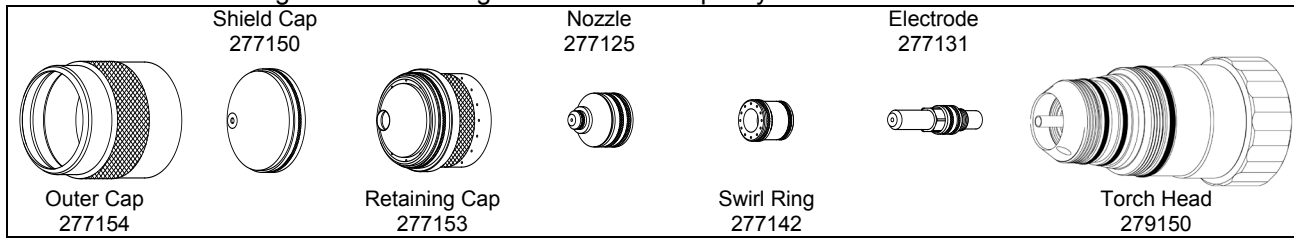
Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Marking Height		Initial Height		Pierce Time (msec)
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	
All Thicknesses	N/A	28	25	N/A	135	250	6350	.096	2.4	.100	2.5	0

* Use an arc transfer height (ignition height) of .150" (3.8 mm) for cutting and .100" (2.5 mm) for marking (Revised 12/1/2009)

Stainless Steel - 70 Amps – Air Plasma / Nitrogen Shield Copper Electrode

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
10	.135	25	80	25	79	132	120	.060	.150	200	.085
	3/16					134	100	.070	.200	300	
	1/4					140	75	.090	.225	400	.090
	3/8					148	50	.120	.250	500	

Metric

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Pierce Time	Kerf Width
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
3		25	80	25	79	131	3210	1.4	3.3	200	2.2
5	134					2445	1.8	5.1	400		
6	138					2050	2.1	5.5	400	2.3	

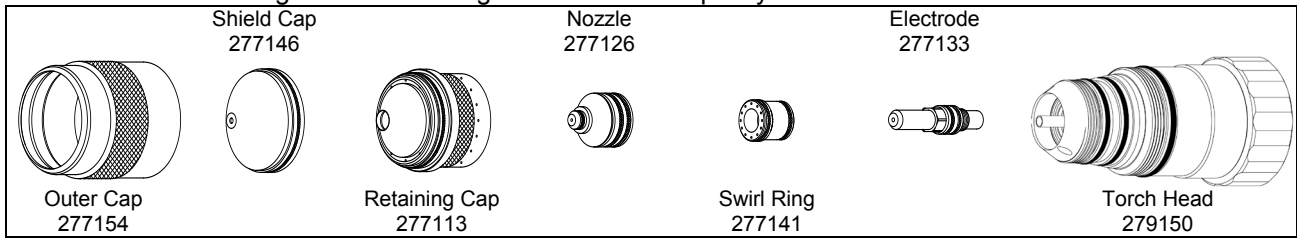
Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Pierce Time
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	25	N/A	135	250	6350	.096	2.4	.100	2.5	0

* Use an arc transfer height (ignition height) of .150" (3.8 mm) for cutting and .100" (2.5 mm) for marking
(Revised 10/22/2009)

Stainless Steel - 100 Amps – H17 Plasma / Nitrogen Shield Copper Electrode

This gas combination gives the best cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
3/16	28	67	46	67	138	115	.105	.200	300	.100
1/4					140	100	.125	.225	400	
3/8					152	65	.180	.250	500	

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
5	28	67	46	67	138	2865	2.7	5.1	400	2.5
6					139	2625	3.0	5.5		2.7

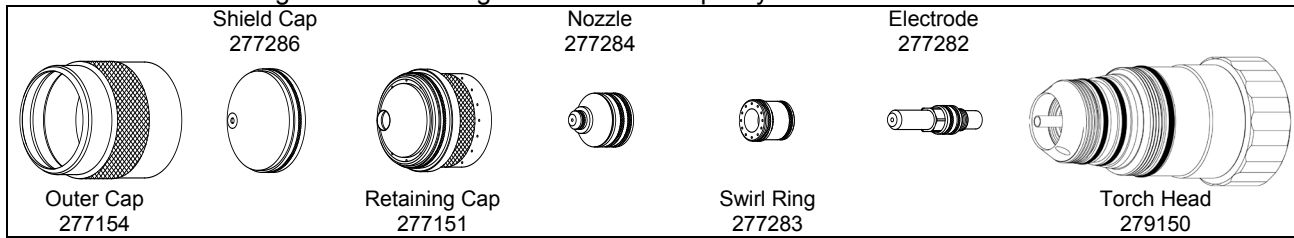
Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	25	N/A	130	250 6350	.100 2.5	.100 2.5	0

* Use an arc transfer height (ignition height) of .200" (5.1 mm) for cutting and .100" (2.5 mm) for marking
(Revised 12/1/09)

Stainless Steel - 100 Amps – Air Plasma / Nitrogen Shield Copper Electrode

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/4	25	94	35	93	141	100	.135	.225	400	.092
3/8					147	80	.170	.250	500	
1/2					154	55	.210	.300	600	

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
6	25	94	35	93	140	2595	3.2	5.6	400	2.3
10					148	1935	4.4	6.5	600	2.4
12					152	1540	5.0	7.3		

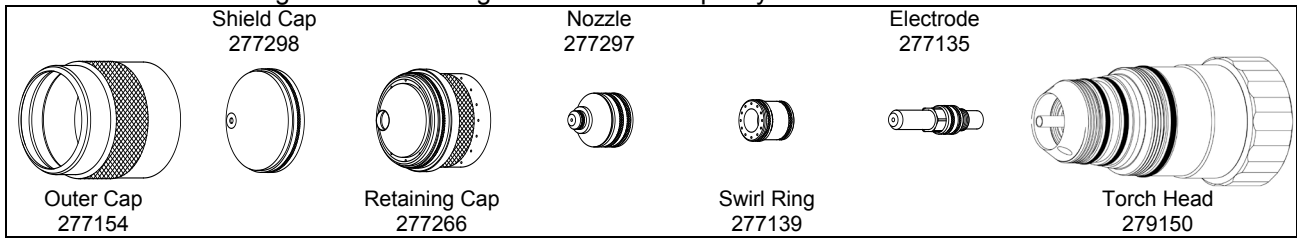
Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Pierce Time
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	25	N/A	130	250	6350	.100	2.5	.100	2.5	0

* Use an arc transfer height (ignition height) of .200" (5.1 mm) for cutting and .100" (2.5 mm) for marking
(Revised 10/21/2009)

Stainless Steel - 150 Amps – H17 Plasma / Nitrogen Shield Copper Electrode

This gas combination gives the best cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/4	25	81	75	81	165	95	.250	.250	400	.135
3/8						75	.150	.275	500	
1/2						60	.165	.300	600	.140
5/8						50	.185	.325	800	
3/4						40	.250	.350	1200	

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
10	25	81	75	81	155	1845	3.8	7.0	600	3.4
12						1610	4.1	7.4		3.6
16						1260	4.7	8.3	800	
20					167	940	6.9	9.0	1200	3.7

Marking

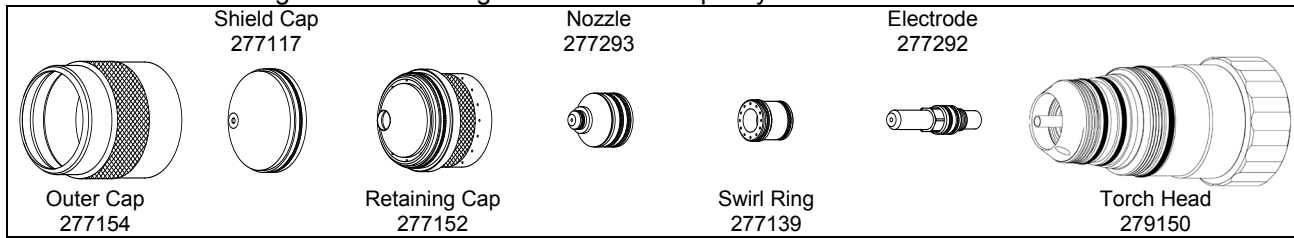
Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	25	N/A	135	250 6350	.100 2.5	.100 2.5	0

* Use an arc transfer height (ignition height) of .200" (5.1 mm) for cutting and .100" (2.5 mm) for marking
(Revised 12/01/09)

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Stainless Steel - 150 Amps – Air Plasma / Nitrogen Shield Copper Electrode

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/4	25	75	70	67	145	150	.160	.250	400	.125
3/8					150	115	.180	.275	500	
1/2					155	85	.210	.300	600	.130
5/8					160	60	.220	.325	800	
3/4					168	45	.240	.350	1200	

Metric

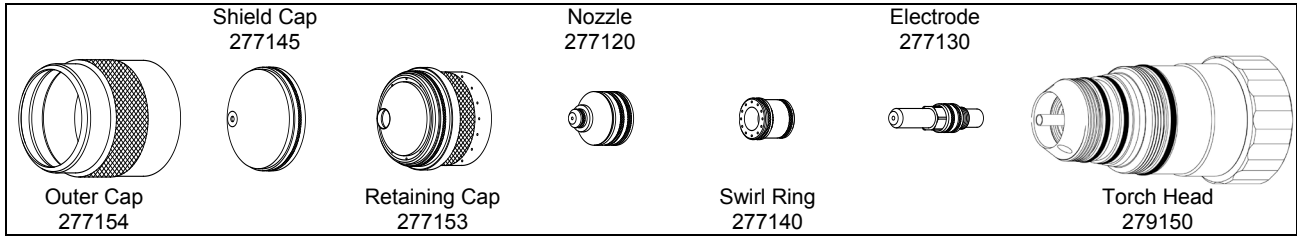
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
6	25	75	70	67	144	3910	4.0	6.3	400	3.2
10					150	2805	4.7	7.0	600	
12					153	2330	5.1	7.4	3.3	
16					160	1510	5.6	8.3		
20					170	1030	6.2	9.0		1200

Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	25	N/A	135	250 6350	.100 2.5	.100 2.5	0

* Use an arc transfer height (ignition height) of .200" (5.1 mm) for cutting and .100" (2.5 mm) for marking (Revised 12/01/2009)

Aluminum - 30 Amps – Air Plasma / Nitrogen Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
.040	30	92	20	90	135	150	.030	.100	100	.065
.050						120				
.063						90				
								.150	200	.070

Metric

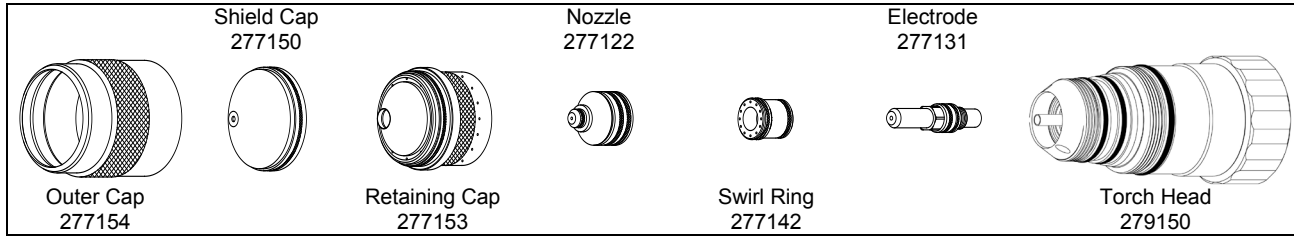
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
1	30	92	20	90	135	3885	0.8	2.5	100	1.7
1.5						2520				
								3.4	200	1.8

Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Pierce Time
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	25	N/A	145	250	6350	.177	4.5	.100	2.5	0

* Use an arc transfer height (ignition height) of .100" (2.5 mm) for cutting and .100" (2.5 mm) for marking
(Revised 12/01/2009)

Aluminum - 50 Amps – Air Plasma / Nitrogen Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
.050	25	74	19	73	135	180	.050	.100	100	.080
.063					138	140	.065		150	.082
.080					143	90	.075	.150	200	.085

Metric

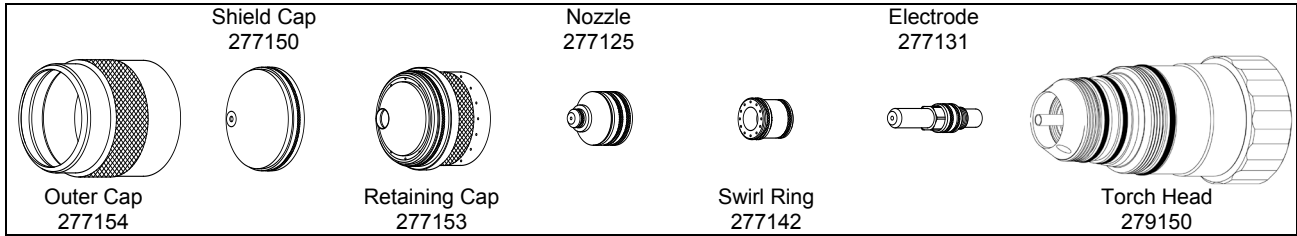
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
1.5	25	74	19	73	137	3870	1.5	2.5	150	2.1
2.0					142	2360	1.8	3.7	200	2.2

Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	25	N/A	145	250 6350	.147 3.7	.100 2.5	0

* Use an arc transfer height (ignition height) of .100" (2.5 mm) for cutting and .100" (2.5 mm) for marking (Revised 10/21/2009)

Aluminum - 70 Amps – Air Plasma / Nitrogen Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
.080	25	80	25	79	130	250	.050	.150	100	.080
1/8					135	160	.070	.175		
3/16					145	80	.100	.200	200	.085
1/4					150	50	.060	.250	300	
3/8					155	40	.075	.275	400	.090
1/2					162	30	.115	.300	500	

Metric

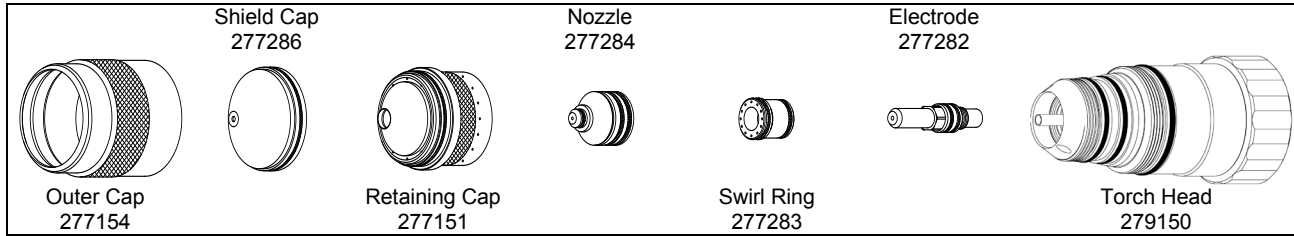
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
2	25	80	25	79	129	6400	1.2	3.7	100	2.0
3					134	4420	1.7	4.3		
5					145	1920	2.3	5.2	300	2.2
6					148	1440	1.7	6.1		
10					156	975	2.0	7.0	500	2.3
12					160	820	2.6	7.4		

Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	25	N/A	135	250 6350	.096 2.4	.100 2.5	0

* Use an arc transfer height (ignition height) of .150" (3.8 mm) for cutting and .100" (2.5 mm) for marking (Revised 10/22/2009)

Aluminum - 100 Amps – Air Plasma / Nitrogen Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/4	25	94	26	93	158	105	.155	.250	300	.095
3/8					162	90	.180	.275	400	.098
1/2					165	70	.195	.300	500	.100

Metric

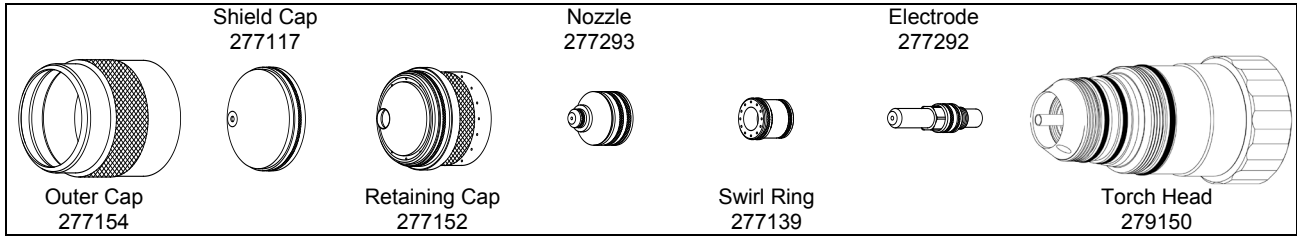
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
6	25	94	26	93	158	2710	3.8	6.3	300	2.4
10					162	2210	4.6	7.0	500	2.5
12					165	1890	4.9	7.4		

Marking

Material Thickness (ga) (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm) (mm/min)	Marking Height (in) (mm)	Initial Height (in) (mm)	Pierce Time (msec)
All Thicknesses	N/A	28	25	N/A	130	250 6350	.100 2.5	.100 2.5	0

* Use an arc transfer height (ignition height) of .250" (6.4 mm) for cutting and .100" (2.5 mm) for marking (Revised 02/23/2010)

Aluminum - 150 Amps – Air Plasma / Nitrogen Shield Copper Electrode



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Pierce Time (msec)	Kerf Width (in)
1/4	25	75	50	67	145	145	.130	.250	400	.125
3/8					155	115	.185	.275	500	
1/2					165	90	.230	.300	600	.130
5/8					170	65	.250	.325	800	.135
3/4					45	.350		1200	.140	

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Pierce Time (msec)	Kerf Width (mm)
6	25	75	50	67	143	3770	3.1	6.3	400	3.2
10					156	2825	4.8	7.0	600	
12					162	2430	5.5	7.4	1200	3.3
16					170	1630	6.4	8.3		3.4
20					170	990		9.0	3.6	

Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Travel Speed		Marking Height		Initial Height		Pierce Time	
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	
All Thicknesses			N/A	28	25	N/A	135	250	6350	.100	2.5	.100	2.5	0

* Use an arc transfer height (ignition height) of .250" (6.4 mm) for cutting and .100" (2.5 mm) for marking
(Revised 12/01/2009)

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