

OXWELD® Cutting Tips



1400 Series Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
Fits C-43, 66 and 67-1400 Torches	12	1427-12	5470099
	14	1427-14	5470144
	16	1427-16	5470100
	20	1427-20	5460192
	24	1427-24	5460162
	28	1427-28	5460193
	3-6	1431-120	66Z59
	6-10	1431-140	66Z60
	10-16	1431-160	66Z61
	16-20	1431-200	66Z62
	20-24	1431-240	66Z63
24-28	1431-280	66Z64	



1427 and 1431

1427 Series Alternate Fuels Operating Data

Tip		Steel Thickness	Gas Pressure			Cutting Speed	Cleaning Drill Size		Gas Consumption		
Size	Part		Cutting Oxygen	Preheat Oxygen	Natural Gas				Cutting Oxygen	Preheat Oxygen	Natural Gas
in.	Number	in.	psig	psig	psig	in./min.	Preheat	Cutting	cfh	cfh	cfh
12	5470099	12	75-85	8-10	16-19	4-5	55	31	800-900	100-115	65-75
14	5470144	14	60-70	7-9	8-11	3½-4½	54	28	950-1,100	115-140	75-95
16	5470100	16	55-65	9-12	11-15	3-4½	53	20	1,150-1,330	145-175	95-115
20	5460192	20	45-55	13-18	17-23	2¼	52	8	1,450-1,700	170-225	125-150
24	5460162	24	40-50	21-25	28-33	2-3½	51	C	1,850-2,200	225-285	170-190
28	5460193	28	30-40	28-33	39-45	2-3½	50	K	1,950-2,400	315-350	210-235

1427 Series Tips: Cutting speeds are based on cutting steel at room temperature and have straight cylindrical cutting bores.

1431 High Speed Series Alternate Fuels Operating Data

Tip		Steel Thickness	Gas Pressure			Cutting Speed	Cleaning Drill Size		Gas Consumption		
Size	Part		Cutting Oxygen	Preheat Oxygen	Natural Gas				Cutting Oxygen	Preheat Oxygen	Natural Gas
in.	Number	in.	psig	psig	psig	in./min.	Preheat	Cutting	cfh	cfh	cfh
120	66Z59	3-6	80-115	9	17	18-30	55	31	1,350	140	110
140	66Z60	6-10	80-115	10	13	10-20	54	28	1,850	225	130
160	66Z61	10-16	80-115	11	14	10-20	53	20	2,100	240	135
200	66Z62	16-20	80-115	15	20	8-20	52	8	3,100	275	175
240	66Z63	20-24	80-115	22	30	6-17	51	C	4,700	335	225
280	66Z64	24-28	60-80	30	42	4-16	50	K	4,900	405	275

1431 Series Tips: Cutting speeds are based on cutting steel at temperatures over 1,000°F (1,832°C), and have tapered divergent cutting bores. These tips are used in continuous casting cut-off or plate ripping applications where it is necessary to slice through quickly.

Given pressures are “back-of-the-torch” pressures, not what to set regulator at; hose length, diameter, flash arrestor use, and many other factors affect pressure. Use test gauge adaptors on page 33 to check pressure at back of torch.

OXWELD® Cutting Tips



1701 Series Acetylene

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
For C-60 Torch Only	35-40	1701-50	08Z82



1701 and 1702

1701 Series Acetylene Operating Data

Tip		Steel Thickness	Gas Pressure			Cutting Speed	Gas Consumption			Cleaning Drill Size	
Size	Part		Cutting Oxygen*	Acetylene	Preheat Oxygen		Cutting Oxygen	Acetylene	Preheat Oxygen**	Cutting	Preheat
in.	Number	in.	psig	psig	psig	in./min.	cfh	cfh	cfh	in.	in.
30	08Z78	24-26	22	10	20	2-3½	2,160	213	170	19/64	53
40	08Z80	28-30	18	10	20	2-3½	3,470	272	217	"X"	54
50	08Z82	35-40	12	10	20	2-3	4,600	330	264	1/2	3/64

*Read from gauge mounted on torch.

**Preheat oxygen flow is given as 80% of acetylene flow. This oxygen/acetylene ratio produces an 18 in. acetylene feather which is used for most heavy cutting operations.

1702 Series Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
Fits C-60, C-59-4 Torches	24-26	1702-30	460064
	28-30	1702-40	596578
	35-40	1702-50	5470081
	45-50	1702-60	5470082
	50-60	1702-70	5490062

1702 Series Natural Gas Operating Data

Tip		Steel Thickness	Gas Pressure			Cutting Speed	Cleaning Drill Size			Cleaning Drill Size	
Size	Part		Cutting Oxygen*	Natural Gas	Preheat Oxygen		Cutting Oxygen	Natural Gas	Preheat Oxygen**	Cutting	Preheat
in.	Number	in.	psig	psig	psig	in./min.	cfh	cfh	cfh	in.	in.
30	460064	24-26	22	7-15	11-25	2-3½	2160	190-380	285-570	19/64	5/64
40	596578	28-30	18	11-16	18-25	2-3½	3470	275-400	410-600	"X"	46
50	5470081	35-40	12	12-17	20-26	3	4600	380-450	570-675	1/2	46
60	5470082	45-50	7	14-18	25-30	2-2½	5450	450-525	675-790	19/32	45
70	5490062	50-60	6	16-24	30-40	2-1¼	7500	525-650	790-975	11/16	43

*Read from gauge mounted on torch.

**Preheat oxygen flow is given as 50% of natural gas flow for a 1.5 oxygen to 1.0 natural gas ratio. This oxygen/natural gas ratio produces a long inner cone flame length which is used for most heavy cutting operations.

Given pressures are "back-of-the-torch" pressures, not what to set regulator at; hose length, diameter, flash arrestor use, and many other factors affect pressure. Use test gauge adaptors on page 33 to check pressure at back of torch.

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OXWELD® Scarfing Tips



1705 Series Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
Fits C-59-4 (not shown)	Scarf width 3-4½	1705-80	686068

1705 Natural Gas Tips Operating Data

Tip		Oxygen		Natural Gas		Cleaning Drill Size	
Size	Part	Pressure	Consumption	Pressure*	Consumption	Preheat	Cutting
in.	Number	psig (bars)	cfh (m3/hr.)	psig (bars)	cfh (m3/hr.)	in.	in.
80	686068	75 (5.18)	6,500 (184)	5 (0.35)	100 (2.83)	5/64	48
		100 (6.90)	8,500 (241)	10 (.69)	175 (4.96)	-	-
		125 (8.63)	10,500 (297)	15 (1.04)	225 (6.37)	-	-
		150 (10.4)	12,500 (354)	20 (1.38)	275 (7.79)	-	-
		-	-	25 (1.73)	300 (8.5)	-	-

*Measured at the regulators using 100 ft. of 3/4 in. hose plus special whip hose subassembly (Part Number 688928) between torch and oxygen regulators, and 100 ft. of 3/8 in. hose between torch and fuel gas regulator.

Given pressures are “back-of-the-torch” pressures, not what to set regulator at; hose length, diameter, flash arrestor use, and many other factors affect pressure. Use test gauge adaptors on page 33 to check pressure at back of torch.

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OXWELD® Cutting Tips



1808 Series Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
Fits C-59 and C-63	20-40	1808-30	65Z44
	40-50	1808-40	65Z45
	50-60	1808-50	65Z46



1808

Tip Data

Size	Part Number	Cleaning Drill Size	
		Cutting	Preheat
		in.	in.
30	65Z44	19/64	51
40	65Z45	"X"	50
50	65Z46	1/2	48

Oxy-Propane Operating Data

Metal Thickness	Tip Number	Cutting Oxygen		Propane		Preheat Oxygen	
		psig	cfh	psig	cfh	psig	cfh
20-40	30	50	4,500	12-14	132	45	462
40-50	40	50	7,000	13-15	144	50	504
over 50	50	50	9,000	13-15	150	55	525

Oxy-Natural Gas Operating Data

Metal Thickness	Tip Number	Cutting Oxygen		Natural Gas		Preheat Oxygen	
		psig	cfh	psig	cfh	psig	cfh
20-40	30	50	4,500	21-23	330	68	660
40-50	40	50	7,000	23-25	360	75	720
over 50	50	50	9,000	24-26	375	78	750

Given pressures are "back-of-the-torch" pressures, not what to set regulator at; hose length, diameter, flash arrestor use, and many other factors affect pressure. Use test gauge adaptors on page 33 to check pressure at back of torch.

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OXWELD® Cutting Tips



PM Tips Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
Fits PM-100, 200, and GST Torches	3-6	PM-120-85	2118702
	6-10	PM-140-85	2118701
	6-10	PM-110-200	2118707
	10-16	PM-160-85	2118700
	10-24	PM-160-135	2118703
	4-9	PM-93-200	2228620



PM-100, 200, and GST

PM - GST Operating Data

Tip Part Number	Steel Thickness in.	Gas Pressure		Tip Stand-off in.	Gas Consumption	
		Cutting Oxygen*	Natural Gas or Propane*		Oxygen	Natural Gas or Propane
		psig	psig		cfh	cfh
2118700	10-16	80-110	10-30	4-6	2,080	225-500
2118701	6-10	80-110	10-30	4-6	1,640	225-500
2118702	3-6	80-110	10-30	4-6	1,260	225-500

*Non-Divergent Bore: (See Cleaning Cutting Tips).

PM-100/PM-200/PM-300 Operating Data

Tip Part Number	Steel Thickness in.	Gas Pressure			Cutting Speed in./min.	Tip Stand-off in.	Cleaning Drill Size		
		Cutting Oxygen psig	Preheat Oxygen psig	Natural Gas psig			Cutting Oxygen	Natural Gas	Preheat Oxygen
PM-100/200									
2118700	10-20	85	10-20	4-6	6-9	4-6	1800	180-240	345-465
2118701	6-10	85	10-20	4-6	9-13	4-6	1400	180-240	345-465
2118702	3-6	85	10-20	4-6	12-18	4-6	1020	180-240	345-465
2118703	20-30	135	10-20	4-6	2-10	4-6	3040	180-240	345-465
2118707	6-10	190	10-20	4-6	7-16	4-6	2020	180-240	345-465
PM-300									
2228184*	20-30	50	10-20	4-6	2-5	5-7	4600	180-240	345-465
2228185	20-30	80	10-20	4-6	3-6	5-7	3800	180-240	345-465
2228186	30-40	135	10-20	4-6	2-4	5-7	5200	180-240	345-465

Oxygen pressure: Set while cutting lever is depressed; pressure measured at the torch.

Natural gas or propane pressure: Set while cutting lever is depressed and fuel gas valve is wide open; pressure measured at the torch.

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OXWELD® Scarfing and Cutting Tips



C-100 Tips Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
C-100	60-76	C-100-80	691446
	76-96	C-100-100	691448



C-100 #80

Operating Data

Tip Size	Part Number	Steel Thickness in.	Cutting Oxygen		Propane		Preheat Oxygen	
			Pressure	Flow	Pressure	Flow	Pressure	Flow
			psig	cfh	psig	cfh	psig	cfh
80	691446	60-76	5-6	9,500-12,000	35	825	15	550
100	691448	76-96	5-7	15,000-19,000	35	825	15	550

1806 Series Alternate Fuels

Model	Steel Thickness	Size	One-Piece or Internal Part Number
	in.		
Fits C-59	Scarf width 2¼-3⅜	1806-62	15X44



1806

Operating Data

Tip		Scarfing Path Width in. (mm)	Preheat Holes	Cleaning Drill Size		Replacement Parts	
Size	Part Number			Preheat	Cutting	Wear Ring Assembly	Tip Nut
62	15X44	2¼-3⅜ (57 - 81mm)	16	1/16 in.	5/8 in.	60Y92	37Z23

Operating Data

Cutting Oxygen		Natural Gas	
Inlet Pressure	Flow	Inlet Pressure	Flow
psig (bars)	cfh (m3/hr.)	psig (bars)	cfh (m3/hr.)
20 (1.38)	4,300 (121)	5 (0.35)	40 (1.13)
30 (2.07)	5,600 (159)	10 (0.69)	75 (2.12)
40 (2.76)	7,000 (198)	15 (1.04)	105 (2.97)
50 (3.45)	8,300 (235)	20 (1.38)	130 (3.68)
60 (4.14)	9,600 (272)	-	-

Hose Sizes: For oxygen, use "C" size hose (1/2 in. I.D.), Part Number 2120399 (50 ft.).
For fuel gas, "B" size hoses (3/8 in. I.D.), Part Number 2120404.

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